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Editorial.

THE POST GRADUATE DEGREE.

IN wishing the readers of the VETERINARY JOURNAL a happy new year, I would remind them that Fortune is a fickle goddess, and is difficult to win, but she cannot in any case be won without much wooing, and the more urgent the wooer is, the more likely is he to attain success in his suit. At the present moment, Fortune seems to be in a smiling mood, but one can never tell when she, being essentially and characteristically feminine, will veer round to the opposite direction, and turn a deaf ear to all our entreaties. Let us take heart of grace, and remember that faint heart never won fair lady.

To drop metaphor and come to plain language, we veterinarians must bestir ourselves to obtain some at least, if not all, the good posts that are being at present offered to inspectors and officers of health. These are going where, in my humble opinion, they ought not to go—to medical officers. As proof, I append an extract from the *British Medical Journal* of 26th November:—

From the *Salisbury Times* we learn that the Wiltshire County Council, by a somewhat narrow majority, resolved to appoint a medical officer at a salary of £500 a year. The carrying of so important a matter, even by the small majority of two votes, is at least a sign of sanitary progress. Five years ago a similar resolution was defeated. Mr. Story-Maskelyne, who moved the resolution, while enumerating the other well-known reasons for making such an appointment, said some wise words on the subject of milk. Speaking as a farmer, he said the towns were waking up to the importance of the dangers arising from their country milk supplies. He thought that before a heavy hand was laid upon them by the Legislature, they ought to set their house in order. This they had not done hitherto, for they did not know how. Proper advice in this subject could only come from a properly trained person. He believed great improvements in cowsheds and cowyards could be made without going to the great expense of the measures recommended by the

Local Government Board. While he would have liked to have offered a larger salary, to make sure of a good man, he had no doubt that when they did get a good man, and paid him properly, his cost would be repaid in the improvement in the general health, well-being, and happiness of the county. There can be very little doubt that the trend of public opinion—at least the opinion of the public who consume the milk—is increasingly in favour of a stronger control of the country cowshed. Excellent as are many of the district medical officers, they can ill afford the time, and they are seldom sufficiently backed by their local authorities, to secure the proper construction of, or maintain a proper supervision over, the cowsheds of their districts. A certain measure of uniformity of requirement might be hoped for if the care of these matters was thrown upon the counties. A milk dealer in a large town, if he finds the urban provisions irksome, has in some cases only to cross the borough boundary to enjoy the liberty of keeping his cattle as dirty as he pleases. When the counties of England generally follow the good example set, though perhaps somewhat tardily, by Wiltshire, we feel pretty confident that greater and more useful powers will be extended to them. Of such none is probably of more consequence to the general public, and indirectly by increasing confidence in the article sold to the local farmers, than a steady and uniform control of the dairy farm.

I should like to know why posts worth £500 a year, which ought to be the natural perquisites of the veterinary profession, go to the medical. There is a distinct apathy among my professional brethren, from which they must be aroused, if they are not to suffer social and scientific extinction. If it were only our medical competitors who got the posts of inspectors, it would be galling enough, but that is not the case. We allow ex-military men, policemen, tradesmen of various sorts, and men with no special qualification whatsoever, to usurp these posts of honour and profit. We are a feeble folk, but we are growing feebler through our own fault, and may become extinct as a profession if we do not rouse ourselves to effort.

The following extract from the *Times* of 11th November is full of significance for us :—

Any qualified medical practitioner, whether with or without special fitness, may be appointed medical officer of health to a small district; but no man can be appointed to a large district unless he possesses, in addition to his ordinary medical qualifications, a special licence or diploma in public health. In order to obtain this, he is required, after becoming entitled to practise, to devote another year to special study of public health questions, and then to pass an examination of great stringency. Such examinations are held by several universities and other licensing bodies, but they are entirely under the control of the General Medical Council, which is the sole judge of their efficiency, and which has laid down the principle that no public health diploma will be registered, and so rendered valid as a fulfilment of legal requirements, unless it has been gained by an examination requiring a "high and distinctive proficiency" in every branch of the subject with which it deals. It follows that the county medical officer of health is not only a medical practitioner, but that, in addition, he is a carefully-trained specialist in relation to the work which it becomes his duty to perform. The community which retains

his services may feel confident of being protected equally against alarms without foundation, and against neglect of precautions proper to be adopted.

The report of the Wiltshire committee calls attention to several matters, such as water supply and milk supply, for the due control of which it is absolutely necessary that some competent person should exercise control over a sufficient area. A source of water pollution originating in one district may easily produce its chief consequences in another; but the medical officer of the latter would have no power to pursue the public danger to its source. In counties, on the other hand, it is not at all uncommon for the medical officer to have control over the whole area of the supply, or at least to be able to obtain such control by joint action with his colleague in an adjacent county. The same considerations apply with equal force to the inspection of dairies and cowsheds.

In the above extract let us read "veterinary" for "medical," and let us insist on a division of the duties and emoluments. Of course, for this purpose we must show that we are ready to submit to a severer test than any that we have yet undergone. We must be prepared to show our fellow-countrymen that we have made a special study of that great subject, Public Health, in all its bearings before we ask leave to dignify ourselves with the new degree of Veterinary Officer of Health. Of course, the Government will insist on certain pledges and certain tests of efficiency; it is for us, in the first place, to prove that we can furnish these pledges and confidently submit to the tests.

To talk at the present moment of a university degree is quite futile. A university distinction is an important and valuable one, and a man may well be proud when he obtains such, but this distinction is the crowning glory of the graduate, or, so to speak, the mint-mark put upon the coin; it is not the metal—that must be obtained from the mine—but it is a guarantee that the piece of metal is of the requisite fineness and of standard weight. In other words, a university may examine candidates and test their excellence and their skill, but it is for the colleges of the country to provide the teaching. Now, veterinary science is taught only in four colleges in Great Britain, and two of these are maintained by private enterprise. It therefore seems to me to be the clear duty of the profession to support their own teaching institutions, not only from filial respect and veneration, but out of regard for their own safety. Numerous inspectorships must be open for competition in the near future; these posts ought to be the preserves of the veterinary profession; to obtain, however, what we believe to be our own rights we must show ourselves worthy men and properly equipped, and at present we are hardly so; we must provide this equipment by enlarging the scope of our studies, as no one else is willing

or able to do this for us; when this is accomplished, and we have gained recognition of our rights, we may go forward and ask for a university decoration, but not till then.

As the readers of the VETERINARY JOURNAL will naturally be anxious to know what practical suggestions I have to make towards the solution of this important problem, I propose: (*a*) That the Council of the R.C.V.S., after obtaining the necessary sanction of the Home Office, be empowered to appoint a Board of Examiners, and that this Board be chosen from fellows of the R.C.V.S., members of council, professors at veterinary colleges, and members of the ordinary examining board for the time being; (*b*) That two examinations for the new degree be held in each year, and that these examinations be held in London, Edinburgh, or Glasgow, Dublin, Birmingham, or Leeds and Manchester; (*c*) That for two years to come it be sufficient for a candidate for the new degree to present his diploma as M.R.C.V.S.; (*d*) That after the expiry of two years it be compulsory for a candidate to produce a certificate of having attended a post-graduate course of lectures, extending over at least two months, at a recognised veterinary college; (*e*) That post-graduate classes be opened forthwith in the various veterinary colleges, and that these colleges be licensed to prepare candidates for the new degree, and that post-graduate courses be given in connection with the following medical centres, viz., Birmingham, Leeds, Manchester, Liverpool, Newcastle, Durham, Aberdeen, Cardiff, Dublin and Belfast; (*f*) That the chief veterinary inspectors of the markets and abattoirs in those towns should apply, in conjunction with others in the said towns, for teaching licenses; (*g*) That a minimum fee of £ be charged for each class, and a minimum number of attendances be enforced.

It has been urged by some of my professional brethren that the present degree of M.R.C.V.S. implies all the requirements of the V.O.H. degree, and that all that is necessary is to proclaim this to the public; but this is not true, or at least, not to the point. It might as well be said that the ordinary degree of M.D. or M.B., C.M., is sufficient to make a medical practitioner eligible for the post of Medical Officer of Health for a large district; but that this is not so is shown by the extract from the *Times*. The ordinary M.R.C.V.S. is quite eligible for the humbler inspectorships in small districts, but if he aspires to higher things, he must submit to more rigid tests, and proclaim his special skill to the public. My scheme, as above formulated, allows the older man at present in practice to attain to the higher degree by private study, and

without neglect of his means of livelihood, whilst it compels the younger man to extend his studies at his college, if he is ambitious of honourable distinction and higher emoluments.

Others have said that this movement is premature. Surely atuity could go no farther. Lock the door when the steed is stolen! I have already said that a number of good posts will almost certainly be open for occupancy within a very short time. We cannot be too prompt in our application for these posts, nor too eager to show our fitness to occupy them, or, at least, our readiness to qualify for them. The tide is rising; let us take advantage of it.

AUTOINTOXICATION IN CARNIVORA.*

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AUTOINTOXICATION may take place in all the domestic species, but it seems to be most frequent in carnivora. Our knowledge of certain poisonous microbic secretions (*toxins, toxalbumins*), which, when introduced into the system, cause certain well-defined diseases, lead us to suggest that, on account of microbic and fermentative action in the digestive tract as well as certain chemic processes in the functions of nutrition, accompanied by the formation of compounds capable of poisoning the tissues, the body is in constant danger of intoxication both from without and within. This thought is most forcibly suggested to me by certain obscure and usually fatal diseases of the house-dog and the cat, accompanied by nervo-muscular symptoms or gradual inanition, with or without any apparent specific lesion on *post-mortem*. A true solution of the details of such intoxication is only possible after we have a more thorough knowledge of the chemico-physiologic changes in the body. It is, however, quite appreciable that there are some conditions which favour the production of *ptomains* in the intestinal tract, from food fermentation, which may be poisonous in the same manner in which the toxin of the tetanus bacillus, remaining localised on the surface, is absorbed and intoxicates the nervous system.

The *leucomains*, the toxic compounds formed within the body, are an important factor. The ingredients of the food taken into the alimentary canal undergo chemic changes

* Read before the semi-annual meeting of the Pennsylvania State Veterinary Medical Association, Pittsburg, September, 1898.

when digested ; they are absorbed ; the cells of the different tissues and organs select those materials necessary for their sustenance, and change these materials into their own proper cell-constituents. When the cell-tissue or organ acts or is exercised there are still other chemic changes : the nutritive pabulum a moment before absorbed is now destroyed, oxidised, or converted into poisonous compounds which, when not promptly eliminated from the system and allowed to accumulate (uræmic poisoning), or not neutralised by other products, produce certain symptoms. Again, the surplus albumin, fat, sugar, etc., not needed to maintain the nutritive balance, must be converted into other compounds for elimination from the system. In this vast laboratory of chemistry in the animal body, if the function of an organ be increased, diminished, or perverted, any one of such poisonous products may be formed in excess of its normal quantity or checked in its elimination or new compounds may be formed. A disturbance of the function of one organ, although of little import in itself, may alter the function of some other organ. We have abundant illustrations of the "functional sympathy" among all the organs and the altered functions resulting from its disturbance.

In order to show the complexity of the process of the organic disassimilation, as well as the many chemical compounds, the albuminous matter of the food is decomposed into :

1. Nitrogen—containing acids—uric, hippuric, and oxaluric ; the last, by losing its nitrogen, becomes oxalic acid.

2. Sugar, whence the formation of lactic, stearic, capric, valeric, succinic, oxalic, and carbonic acids, or the amides (starches) of these acids—leucin, tyrosin, and glycocoll.

3. Cholesterin, whence the volatile fatty acids—caprilic, capric, valeric, butyric, propionic, acetic, and oxalic.

4. Sulphur, whence sulphates by oxidation.

The fatty matter is decomposed into glycerin; the latter forms water, carbonic acid, and volatile fatty acids—oleic, stearic, and palmitic.

Starch forms dextrin and glucose, and, finally, lactic, butyric, acetic, and oxalic acids.

The *leucomains*, or toxins elaborated in the animal tissues during the process of selection by the cells, from the circulating fluid of those materials which they need, and of transforming the surplus, as well as the waste materials formed in these processes, into compounds capable of elimination from the system, are to the animal body what the toxins

are to microbes, and the alkaloids, such as aconite, pilocarpine, to the higher plants.

The principal leucomains found in the body are: 1, adenin; 2 plasmain; 3, sarcin, found in the white cells of the blood, the liver, spleen, thymus, kidney, and heart; also in growing vegetable shoots; 3, xanthin; 5, pseudoxanthin; 6, paraxanthin, isomeric with theobromin; 7, hetroxanthin, found in small quantities in the urine of the dog; 8, guanin; 9, carnin, found in yeast and extract of meat; 10, creatin in the muscles, brain, blood, and at times in the urine. It has no toxic properties; 11, creatinin, in the muscles, blood, organs, urine, and some animal secretions. It is a strong base and, when excessively alkaline, possesses toxic properties (Cadeac).

Various other principles, endowed with great toxic properties, but which have not been isolated, exist in the bile, urine, etc. In a culture of bacteria the latter will cease to vegetate when the medium becomes saturated with toxin secreted above a certain point. Likewise, the living animal tissues, when they become saturated above a certain point with one or more of the toxic principles elaborated within the body or absorbed from the intestinal tract, show perversion of function and symptoms of disease. More than this, these toxins are capable of producing anatomic alterations in the organs, as is seen in the liver and kidneys. Venin, the animal-toxin of certain snakes, for example, produces nephritis in susceptible animals.

These various chemic processes in the body are under the control of definite functions and properties possessed by the cells. When such properties and functions become perverted, either by an altered supply of nutritive material, deviation in the intrinsic functions of the protoplasm, or in the excretory functions, the nature and regularity of the phenomena of nutrition become altered and the body becomes saturated with obnoxious materials. The organs most essential to nutrition, the emunctories and nervous system, are probably those frequently at fault primarily. Again, some rich food-stuffs are converted into toxins formed either in the digestive tract or after absorption into the system. Excessive absorption of nutrients from the intestinal mucous membrane cause plethora of the liver, prevents the subsequent assimilation and disassimilation, and disturbs the glandular secretions. Wheat and barley fed in excessive quantity produce laminitis; vetches are said to cause roaring. Meat, wholesome at the time of ingestion, may, when it remains too long in the stomach, or

when the digestive secretions are altered or insufficient, become poisonous. Whatever be the source of the toxic agent which circulates through the system, the consecutive phenomena vary according to its nature and the organs affected by it.

The organs offer a different susceptibility to the diverse toxic products. The phenomena may be due to a local or to a reflex action. For example, stimulation or neuritis of the central end of the several pneumogastric or the first dorsal nerve is followed by sugar in the urine; stimulation of the fourth ventricle, by sugar and albumin in the urine. To give many specific illustrations of autointoxication and prescribe therapeutic means require more knowledge of the physiologic processes than we now possess. A few may be attempted. For instance, *nervine*, resulting from the decomposition of lecithin, a nerve-tissue by-product, is exceedingly toxic, one-sixth of a grain destroying a cat. Cholin found in the blood, muscles, and bile of the pig, is also virulent. Other illustrations of toxic formations in the system, to which they are detrimental unless their effects are neutralised, are the thyroid and pituitary bodies, suprarenal capsules, pancreas, spleen, and bone-marrow. Numerous experiments have shown that in some animals—dog, cat, rabbit, and some herbivora—the thyroid body contains toxic principles which are capable of producing goitre, myxœdema, cachexia, and, in young animals, arrest of development; that if the thyroid be removed, these principles elaborated in the organs will accumulate in the system with the above characteristic symptoms. One of the products isolated from the thyroid body is thyreoproteid. It is the product of organic changes in the body, and, when the thyroid is removed, produces an acute intoxication. Another substance isolated, but formed in the thyroid, is thyroidine; it contains nitrogen and iodin. It acts upon the thyreoproteid as a ferment, which it thus renders innocuous or neutralises like a sort of antitoxin. Thus, when the thyro-antitoxic function becomes disturbed, the principles ordinarily neutralised by the products of the thyroid accumulate in the system, and *intoxication* is the result. We can offer no better explanation than this for such conditions as cholæmia (jaundice), gout, rheumatism, stercoræmia (fecal intoxication), diabetic coma, uræmia, and probably also chorea, neurasthenia, asthma, and idiopathic anæmia, although the toxic nature of the substance has not in all cases been determined. We find an illustration of this in azoturia. If Möller's theory of the excessive acidity of blood is correct, it is an intoxication.

Then we have the various diatheses, the arthritic, herpetic, and scrofulous. The nutritive processes are disturbed, the system is overloaded with materials which the cells cannot utilise, and rheumatism, diabetes and obesity, and deposits of inorganic salts result. In the herpetic diathesis we have the various skin troubles, eczema, etc. Herpetic diseases were described as caused by an excess of lactic and uric acids, etc., and by our sister practitioners are treated principally with alkalies. In aged dogs the nutritive chemic functions are not performed with the same activity and accuracy as in the young. In dogs and often in kittens we have obesity and eczema. During the hot season, when the cutaneous circulation is active and loaded with such materials, we meet skin troubles; in the cold season, when the pulmonary circulation is increased at the expense of that of the skin, we find catarrh of the bronchial mucous membrane, which is seen to appear when the skin trouble disappears. We can understand why local treatment is not permanent. In young dogs we find ulceration of the cornea. In the horse we have acute and chronic affections of the skin, such as grease and urticaria, and, perhaps, lymphangitis. When a horse is "out of condition," a polite term to cover our ignorance, may there not, owing to excess or a change of food or other adverse influences upon the system, be a disturbance in the nutritive forces of the tissue, the production of a milk poison, which checks the digestive and cutaneous secretions, depress the circulation and the nervous system, and hence the loss of appetite, dry coat, slow circulation, and general depression. We see cases, especially in the horse, also in other animals, accompanied for a week or more with absolute loss of appetite, little or no fever, extreme depression, emaciation, probably a yellowish colouration of the mucous membranes, and an acute intoxication of many of the tissues; also low, adynamic fevers, sometimes lasting for some time.

Evidence of autointoxication appears most frequently in the carnivorous house pets. This is especially facilitated by their unnatural condition of living, lazy habits, and errors of diet. Frequent indigestion and gastro-intestinal catarrh, constipation, fetid diarrhœa indicate altered nutritive function and the frequent probability of the absorption of or the formation within the body of toxic products. These most frequently assume the nervous and the cachectic forms. In middle-aged and old dogs I have most frequently found convulsive symptoms to dominate. They are not the benign

convulsions seen in young animals. The animal may be attacked suddenly by spells of exciting running round the house, followed by frequent paroxysms of convulsions, muscular relaxation, and death. Again, I have seen allied conditions complicating other diseases. For example, the patient may be convalescent from broncho-pneumonia, progress favourably, but at a given time and without any aggravations of the primary disease, which may have disappeared, the constitutional symptoms relapse with gradual loss of appetite, weakness, emaciation, and death.

In cats these phenomena may assume the nervous or the cachectic form. In the former, the pet appears frightened, with slight convulsions, inappentency, and death in the course of some days. In the latter, without any apparent cause, the animal refuses to eat, shows emaciation, shedding of fur, constipation, or diarrhœa, cachexia for weeks before death; also catarrhal condition of the mouth and pharynx, with discharge from the nose. Temperature toward the termination of the disease subnormal. In a few instances I have been called to treat the animal for severe eczema, soon after the treatment was commenced, and no drugs were given that could explain the symptoms, convulsions, and death in about a week followed. Were the two conditions due to the same toxic agents? Again, stercoræmia, infection from the intestines, may in these animals cause primary troubles or complicate recovery from other diseases.

I have made a few *post-mortems* of a number of such animals and found the usual lesions that toxic infections present. The liver and kidney were the seat of lesions. The former in one cat was enlarged, fatty (infiltration), the proper tissue having almost disappeared. The kidneys in both dogs and cats were altered; the entire cortex, the secreting portion (Malpighian bodies and convoluted tubules) were fatty, and the line of separation from the medullary portion was very abrupt. We have in the kidney evident lesions, nephritis, and fatty degeneration, showing that some irritating toxic agent has been continually excreted by these organs, and when the latter were no more able to remove this principle from the blood, death soon followed. We see analogous lesions in animals after the prolonged administration of mineral poisons, such as arsenic and mercury. In other cases no decided alterations may be found. Such symptoms and lesions in cats I have seen very frequently.

The treatment is, perhaps, contingent. If such alterations as I have described have progressed far, it is of little value.

Digestive and systemic tonics and cardiac stimulants are given. Bowel antisepsis with thymol, salol, creolin, etc., are indispensable; also diuretics and alkalies, to neutralise any toxic principle and assist in its excretion; regulation of the bowels and stimulating baths.

It is not my intention to classify promiscuously too many conditions under the head of autoinfection, but that it is an important factor in pathogenesis and may include many conditions heretofore not understood.

TICK EXPERIMENTS.

THE following report by Assistant Veterinary Surgeons Dixon and Spreull on some tick experiments conducted at the Klu Klu Station, Fort Beaufort, with the view of determining the full period during which the female tick remains on its host, is hereunder published for the information of our readers :—

KLU KLU, FORT BEAUFORT,
October 31st, 1898.

Tick Experiments.

Veld Infection Experiment.—For this experiment two two-year-old oxen were taken and dipped in the following solution: Cooper's Dip Powder 1lb., soft soap 2lbs., and 15 gallons of water. Three days after all the ticks upon these animals were found to be dead and were removed.

They were then turned upon the veld and allowed to become infected once more, and within the next few days it was noticed that any ticks becoming attached to the skin except from places bare of hair, *e.g.*, anus aud vulva, died very shortly after becoming attached. These animals were examined daily for a whole month and soon became infected with specimens of the different varieties of tick found upon this farm.

We have recognised three distinct species all very common here, namely :—

(1) Blue Tick (*Rhiciphelus decoloratus*, Koch).*
(2) Bont Tick (*Amblyomma hebræum*, Koch).
(3) Red Tick.

Blue Ticks.—These were not discovered until they had reached the size of a millet seed and were then already adult. Within seven days or thereabouts, and always longest in cold weather, these same ticks become gorged with blood, ripen, and obtain their full size—in the female that of a small bean.

The male tick during this period performs the act of copulation. When full grown he does not exceed the size of a whole linseed and, unlike the ripe female, he never has a gorged appearance.

The female does not move about after becoming once attached to the skin; when ripe she drops off. The male goes about until he finds a partner; he then remains fixed in coitu for several days, and after her desertion he does not remain long in the same spot. We are not in a position to state whether he copulates with several females in succession.

Bont Ticks.—The male bont tick was always discovered full grown, is about the size of a pea, and no very visible increase in size takes place during his stay upon the host. He is very active, but often remains attached to the skin for a very long time although quite alone. The female bont, always less

* Determination by Claude Fuller, Assistant Entomologist.

numerous than the male, when first noticed is often the smaller of the two, but in about a week she grows enormously and when ripe is the size of a broad bean. The male remains in coitu during the whole time.

Red Ticks.—These also when first observed were adult and the size of a linseed, the female a little larger than the male. When fully engorged and ripe she nearly equals the ripe bont female in size. Red ticks are found nearly always about the anus and vulva, but occasionally also about the perineum and between the thighs, and appear to favour those places devoid of hair, the insides of the ear excepted. Bont ticks are found usually upon the lower parts, dewlap, breast, belly, and thigh. Blue ticks may be found anywhere, even upon the back, but more especially in the ears; they are the most numerous of these three species.

This experiment was conducted to determine the full period during which the female tick remains on its host. If we confine their stay to the adult stage then the period is probably always about seven days. Great difficulty was experienced in recognising the same tick from day to day and in following its movements upon its host.

Tick Incubation (*First Experiment*).—The accompanying table will show most clearly the facts gathered from this experiment. The ripe females of each species were removed from cattle and placed separately in small bottles containing moss which was always kept moist. These bottles were placed in an incubator and kept at a temperature of about 30° C. The eggs when newly laid were sub-ovid, semi-transparent, shiny, dark brown in colour, and adhered to each other by some sticky protective substance. The eggs of the bont tick are of a lighter brown colour. After being incubated for about two weeks, these eggs become more opaque, and a white nucleus is readily seen in their centres, and the larvæ, when hatched, are very active. To the naked eye, those of the blue tick seem a shade darker than those of the reds. No increase in size takes place until these little creatures reach a host. The eggs of the bont ticks did not hatch, and we are at a loss to explain why; they were kept under the same conditions as the others, but these conditions may not be favourable to this particular variety.

When a sufficient number of the larvæ were hatched, they were sprinkled upon the belly of a white calf, previously prepared by dipping and washing for this experiment. Several hundreds of the blue and red varieties were used; the former were placed upon the fine hairs of the brisket, the latter on the abdomen. Time was allowed for them to crawl into the skin before releasing the calf. He was then kept in the pen and fed upon forage.

He was examined daily, and on the third day after, very few larvæ of either variety could be seen; the red larvæ totally disappeared shortly afterwards, consequently we have not been able to follow out its life-history. The blue ticks adhered well, and, as they grew larger, were discovered in great numbers. The dates of moulting given in the table are only approximate. From this experiment we are able to deduce that the following is, briefly, the life-history of the blue tick:—

Egg.

Egg laying lasts 7 days.
„ incubation lasts 20–25 days.
„ hatching „ 7 „

Living Tick.

Larvæ to nymph (1st moult)	7 days	21 days.
Nymph to sexual adult (2nd moult) ..	7 „	
Adult to maturity	7 „	

Apparently the whole period of attachment of this tick to its host is about three weeks.

Tick Incubation (Second Experiment).—As the accompanying table shows, our former results are confirmed in this. The eggs of the bont ticks again failed to hatch, and at no time showed a nucleus in their centre; after two months of incubation they appear shrivelled up, and there seems no likelihood of their hatching. We cannot believe that they were not fertile, and the result is, therefore, all the more disappointing. Another variety of tick appears in this table, the ripe female of which is the same size as that of the red species. The under surface of the body is of a leaden blue colour; the back is brown, with pale blue spots, and laterally a longitudinal blue line, which terminates on each side, at the posterior margin of the body, in 10 to 12 vertical short lines of a whitish colour; the head-shield is brown-black, and small in size; the legs are black, with white joints. The male tick is black superiorly, has an elongated body and long legs, and is of a whitish colour upon the under surface. This tick laid well, the eggs being light brown in colour and hatching a larvæ of a lighter shade than those of the blue and red species. Microscopically, this larvæ is distinguished from the latter by the great length of its mandibles and palpi. The red and blue larvæ appear very similar under the microscope, and we have not been able to satisfactorily distinguish them.

At least 500 larvæ of the red tick were again placed upon a suitable animal (calf) and watched daily. On the sixth day only seven larvæ could be found, and these were upon the anus. Three days afterwards these also had disappeared, and the experiment again failed.

Several goats have also been infected with larvæ of the different species taken from the incubator, but within a few days they have invariably disappeared, despite our repeated efforts to find them.

Vitality of Larval Tick.—Larvæ set aside 30 days ago in a bottle containing moss, and kept at the ordinary temperature of the room, are still alive and vigorous to-day.

R. W. Dixon, M.R.C.V.S.
J. Spreull, M.R.C.V.S.

Tick Incubation. (First Experiment.)

	BONT.	RED.		BLUE.
	Four females	Two females	Two females	Five females
Placed in incubator	July 15	July 6	July 12	July 6
Egg-laying begun ..	„ 27 (two) Aug. 1 & 2	„ 13 & 15	„ 16	„ 11
„ „ ceased..	„ 10	..	„ 25	„ 15 & 17
Females died ..	„ 13 (two)	..	Aug. 2 & 3	Aug. 10 (2 still alive)
Hatching begun ..	..	Aug. 6	„ 6	„ 5
„ ceased ..	..	„ 13 (or later)	„ 13 (or later)	„ 10 { Not all hatched when expt. was wound up.
Larvæ placed on calf	..	Aug. 9	Aug. 10	„ 8 & 10
First moult.. ..	..	..	..	„ 16 (about)
Second „	..	..	..	„ 26 (about)
Engorged females dropping off ..	..	..	..	Sept. 1st to 8th (inclusive)

Tick Incubation. (*Second Experiment.*)

	BONT.			RED.				BLUE.			STRIPED RED.	
	No. 1. One female from Ox.	No. 2. One female from Heifer.	No. 3. One female from Ox.	No. 4. One female from Goat.	No. 5. One female from Mare.	No. 6. One female from Ox.	No. 7. One female from Ox.	No. 8. Two females from Ox.	No. 9. Two females from Ox.	No. 10. Four females from Goats.	No. 11. One female from Ox.	No. 12. One female from Ox.
Placed in Incubator ..	Aug. 28	Aug. 28	Aug. 28	Aug. 28	Aug. 28	Aug. 28	Aug. 28	Aug. 28	Aug. 28	Aug. 29	Aug. 28	Sept. 5
Egg-laying begun ..	Sept. 8	Sept. 5	Sept. 9	Sept. 1	Sept. 3	Sept. 1	Sept. 3	Sept. 1 and 3	Aug. 31 and Sept. 1	Sept. 3	Sept. 2	„ 10
Egg-laying ceased ..	„ 26	„ 24	„ 26	„ 14	„ 16	„ 13	„ 8	Sept. 13	„ 12	„ 12	„ 17	„ 21
Tick died	„ 27	Oct. 4	Oct. 4	„ 22	„ 20	„ 21	„ 10	„ 21	„ 21	„ 20	Oct. 1	„ 26
Hatching begun ..	..	..	..	„ 23	„ 23	„ 22	„ 26	„ 21	„ 21	„ 23	Sept. 23	„ 28

Redwater Experiments.

In a former report, dated June 6th, it was shown that eight oxen were inoculated subcutaneously with doses of salted blood ranging from 10 c.c. to 140 c.c., increasing the doses by 20 c.c. These eight animals were then allowed to graze day and night on infected veld—the Government outspan adjoining this station, and probably the most infected piece of veld in the neighbourhood. The result of our experiments shows that salted blood obtained from animals which have recovered from Redwater when injected into healthy cattle, even in large doses, produces in them but a very slight form of the disease, and confers an immunity proportionate to the dose of blood infected. The larger the dose the stronger the immunity produced. It has to be borne in mind, however, that our experience with the use of blood obtained from cattle which were salted against both Rinderpest and Redwater, when injected into cattle either suffering from Rinderpest or to which Rinderpest was purposely communicated simultaneously, frequently became affected with a fatal form of Redwater.

This fact has been verified by Dr. Edington's experiments (*vide Agricultural Journal*, volume xii., No. 12, p. 694) and indicate that the blood of animals which have recovered from Redwater is dangerous when inoculated into an animal which suffers coincidently from another disease.

We have since repeated the former experiment with this difference, that some of the animals were tied up so as to avoid veld infection, and the better to observe any temperature reaction consequent upon this inoculation. On the 9th August four oxen (five to eight years old) were inoculated with salted blood, doses 100 c.c., 75 c.c., 50 c.c., and 25 c.c. respectively, and turned immediately upon infected veld with one ox as control. This blood was obtained from an ox used in a former experiment and known to have had the disease very severely four months previously. From about the eleventh or twelfth day these animals showed a mild febrile reaction lasting about ten days; temperatures taken up to the fifty-third day revealed no further disturbance, and since then, although exposed to continuous infection, these animals remain perfectly healthy. The control animal contracted Redwater upon the thirty-second day, had a mild sickness (fifteen days fevered), and recovered. The mildness of the disease we attribute to the season of the year.

Four more oxen of about the same ages were inoculated with similar doses of the same blood and on the same date. These were tied up along with an ox as control. A febrile reaction ensued at the same period as the others but was not so well marked. Thirty days later each of these animals was inoculated with a double dose of the blood of another animal (No. 7, also about four months salted). No reaction followed this second inoculation. Fourteen days after this each received 5 c.c. subcutaneous virulent Redwater blood taken from the above-mentioned control ox, then sick. Not even then did a febrile reaction result, and since September 24th these animals have been exposed to infected veld and remain healthy. The control ox after being tied up for forty-seven days without result was inoculated with 10 c.c. salted blood taken from No. 7, fourteen days afterwards (September 28th) he was turned upon the veld. The following is a record of the temperatures taken from the date of inoculation :—

September	24th	..	..	..	100·8	.. 101·4
,,	25th	..	..	..	102·2	.. 102·8
,,	26th	..	..	..	101·4	.. 102·8
,,	27th	..	..	..	101·2	.. 102·3
,,	28th	..	..	..	100·6	.. 102·4
,,	29th	..	..	..	101·2	.. 102·5
,,	30th	..	..	..	101·6	.. 101·7

October	1st	..	..	..	101·3	..	102·2
„	2nd	..	..	..	100·8	..	103
„	3rd	..	..	..	100·6	..	102·5
„	4th	..	..	..	99·5	..	102
„	5th	..	..	..	101	..	101·6
„	6th	..	..	..	100·2	..	102·6
„	7th	..	..	..	100·5	..	104·2
„	8th	..	..	..	102·4	..	106·2
„	9th	..	..	..	102·2	..	103·8
„	10th	..	..	..	101·4	..	104·8
„	11th	..	..	..	102	..	103·3
„	12th	..	..	..	100·2	..	102·9
„	13th	..	..	..	101·2	..	102·5
„	14th	..	..	..	100	..	102·6
„	15th	..	..	..	100	..	103·2

This animal up till the present time remains quite healthy.

With the object of determining whether ticks are the only means of communicating the disease, two susceptible oxen after being thoroughly cleaned of ticks were turned upon infected veld. We have found that the best method of destroying these pests and preventing their further invasion is to wash the animals over with a solution of Cooper's Dip, 1 lb. mixed with 20-25 gallons of warm water to which is added 4 lbs. of soft soap. The efficacy of this dip is the more lasting because of the fact that the sulphur, etc., contained therein remains about the roots of the hair for some time, and we have noticed that fresh ticks becoming attached to the animal within a few days after its application often die. This dipping has been several times repeated, and in addition the underparts have been frequently smeared with a greasy mixture containing Cooper's Dip powder, sulphur, paraffin, glycerine, carbon bisulphide and lard. Notwithstanding all this, a few ticks have from time to time become attached, more especially around the anus, and now after seventy-five days' exposure to veld these animals still remain healthy.

We are satisfied that salted Redwater blood gives a mild disease and immunity results therefrom, and that large doses of 100 c.c. or more injected subcutaneously are quite safe. A dose of 10 c.c. seems to be sufficient provided veld infection does not follow too soon after inoculation. This would probably explain why in our former experiments the larger doses gave most protection as shown by mild sickness. We are not satisfied that 10 c.c. is sufficient for animals inoculated and immediately turned upon infected veld at its worst, *i.e.* in the late summer months, but we have several outside experiments now pending which will go far to elucidate this point. As you are aware, veld infection during the winter months is somewhat in abeyance, and this fact probably explains the difference between these recent experiments and those conducted last autumn.

R. W. Dixon, M.R.C.V.S.
J. Spreull, M.R.C.V.S.

Cases.

FRACTURE OF THE SESAMOID BONES AND ALSO THE NECK OF THE SCAPULA.

BY HENRY TAYLOR, ASSISTANT TO J. HUTTON, ESQ., F.R.C.V.S., KELSO.

The subject of the case was a hunter colt foal six weeks old, nearly thoroughbred. He had been running along with his

dam in a field bounded in at one part by a stone wall, and he was found one day near the wall at a corner of the field close to which the railway runs, lying, unable to rise. As there were no other horses in the field to have kicked him, his position seemed to indicate that a train coming along had startled him, and in attempting to jump the wall, or otherwise escape, he had come into violent collision with it and injured himself.

He was placed on a "sled" and then transported to the stable, and by dint of dragging and carrying he was got inside. When I saw him next morning he was lying on his near side, apparently comfortable, breathing and pulse about normal. The off shoulder was much swollen, and presented a slight abrasion of the skin, the swelling being large and diffuse, extending from just above the scapula-humeral articulation to

Posterior view.

Lateral view.

within one-third of the upper border of the scapula and along the course of the spinati muscles. On palpitation no crepitations could be heard, also when the limb was abducted or extended, but from the direction of the spine, which could only be indistinctly felt owing to the swelling, it was thought probable that a fracture might probably have taken place there.

On examining the near fore fetlock it was also found swollen, more particularly at its lateral aspect and over the sesamoids.

As the animal could only lie with comfort on his near side, the owner thought if he were placed in slings it would afford better rest, and acceding to his wishes, but sceptical as to

success, we made an attempt which proved futile. He could not place *any* weight at all on the limb with the injured fetlock nor yet for very long on the other with the injured scapula.

Fomentations were ordered, and later on stimulating liniment. A few days later he was seen by Mr. Hutton, who reported that the shoulder swelling to be about the same, but the fetlock one increased. No crepitations could be heard in either instance. After a time he recovered sufficiently to be able to be turned on to his off side, and then to be able to stand for a little while to feed, then to walk slowly.

About two months later we found the shoulder joint still enlarged and presenting an unnatural bulging just above the articulation. The fetlock was double the normal size, swelling hard and extending for several inches above and below; he was still going lame on it, but it did not descend more than normally when weight was placed on it.

Not seeing any prospect of his ever being of much value, it was agreed to destroy him.

Post-mortem.—On divesting the scapula of its muscular covering, it was at once seen that it had been fractured through the neck, and that, although union had taken place, it was not at the proper angle, the neck making, with the rest of the bone, an obtuse angle which was directed towards the thorax. The periosteum stripped off very easily, and the bone itself showed some degree of softening. The neck was much thickened and very irregular on its surface, but the joint was not involved. The fetlock had a great thickening of fibrous tissue all round it, and the superior sesamoidean ligament, after being attached to each sesamoid bone, was greatly enlarged.

The sesamoid bones had been fractured in a transverse direction, each at their base, the Y, V, and X ligaments being attached to the detached parts, whilst the intervening space between bone and detached part was filled by fibrous tissue. On the lower half of the anterior surface of the ext. sesamoid there was interposed a piece of cartilage between it and the os suffraginis.

Both sesamoids showed signs of ostitis, more particularly on their bases and internal aspects.

On opening the metacarpo phalangeal articulation the synovid was increased in quantity and tinged red, but beyond this, to the naked eye, no pathological lesions could be detected.

Möller says that in horizontal fracture of the sesamoids the

fragments are drawn apart and the fetlock sinks to the ground, being no longer fixed by its suspensory ligaments.

Professor Williams says that the symptoms are great lameness, descent of the fetlock, elevation of the toe, and sometimes the presence of a depression, marking the seat of the fracture.

Now in this case, in the early part, there was total inability to bear weight on the limb, and never was there any marked descent of the fetlock; but we can probably account for the deviation from what are considered the diagnostic signs of this fracture, by the supposition that it had taken place below the attachment of some of the fibres of the inferior sesamoidean ligaments.

FROST BITE.

BY W. R. DAVIS, NEW VETERINARY COLLEGE, EDINBURGH.

IN the VETERINARY JOURNAL for February, 1896, I published several cases of inflammation of the skin of the extremities of horses in which there was death of a portion of the integument. The affection was only seen in very cold weather.

It was accompanied by great lameness and was not always easy to diagnosis. Until last month I have not seen another case. During the cold weather in November we were sent for to see a bay carriage horse which had been lame for several days. The animal was found in a loose box, the shoe was off the near hind foot, and the leg was enveloped in a bandage. When the bandage was taken off I found the limb as far as the hock to be considerably swollen and painful, the animal scarcely allowing the skin along the tendons to be touched. There was great lameness, no weight whatever being put on the affected limb. The foot was examined, but was found to be normal. On the coronet at the outside quarter there appeared to be excessive sensibility, though as I have stated, the skin at the posterior of the limb as far as the hock was very sensitive. On making inquiries, I found that the horse had been out in a brougham six days before. On coming in at night it was observed to be shivering and blowing, a neighbouring practitioner was called in, and gave some medicine. The next morning the patient appeared to have recovered, but was found to be lame. This was put down to sprain of the back tendons, and a stimulating liniment, bathing and bandaging was ordered. As the horse seemed to be getting worse, we, as the usual veterinary attendants, were sent for.

A diagnosis was not particularly easy. Doubtless the bandage, applied to a limb that had been rubbed with a strong liniment, would make the skin painful, but would hardly account for the very intense lameness observed. At the request of the owner, the horse was taken to the college in a float, and was there at once treated with a hot antiseptic bath for an hour. The limb to the hock was then enveloped in cotton wool, kept wet with 3 per cent. carbolic lotion.

The next day the hot baths were given twice, the wool being kept on during the interval.

On the third day the lameness was not so great, and on taking off the dressing a piece of skin, about the size of a crown, was found to be dead, and in way of elimination. It was situated where the excessive sensibility was noticed, namely, just above the outside quarter. The treatment was continued, and on the next day the neurotic patch came away, leaving a healthy-looking granulating surface below. The lameness quickly disappeared after this, but the swelling persisted for a fortnight. Dry dressing applied to the wound was followed by cicatrization, and the horse returned to work in about four weeks from the date when symptoms were first shown.

As a rule, these cases are observed to follow an injury inflicted on the skin of the extremities during frost and snow, the injury being in most cases a tread; their site, therefore, is usually on the inside, or rarely the anterior part of the coronet. In this case, however, there was no injury so far as could be ascertained, but the horse had been out nearly all day, the weather being very cold and the ground covered with snow. It would seem, therefore, that in some horses prolonged exposure to frozen snow is sufficient to determine neurotic inflammation of the skin.

DIFFERENTIAL DIAGNOSIS BETWEEN ACUTE LARYNGITIS AND CHOKING.

BY W. R. DAVIS, NEW VETERINARY COLLEGE, EDINBURGH.

AT 11 p.m. on Saturday, November 12th, I was called hurriedly to a horse that the stable-keeper, who came for me, said was unable to breathe and was roaring. The patient was in a stall in a big stable, along with sixty other horses, and I could hear him roaring as soon as the door was opened. The animal, I was told, had been "colded," and had been off work for several days, but was feeding well—had, in fact,

cleared up his supper with the exception of a few pounds of long hay. There had been a little cough, but no discharge from the nostrils, and no difficulty in eating or drinking. Some fever powders had been given, and the throat had been rubbed with a mild stimulant liniment, but the case appeared so trivial that we had not been asked to look at the horse.

The temperature was 102, pulse 50. Respirations were slow, the expiration being very deep, accompanied by great retraction of the abdomen; in inspiration the nostrils dilated, and a loud noise or roar attended the act. The jaws were constantly champed, and much frothy saliva kept churning out of the sides of the mouth and dropped in masses on the ground.

Pressure on the upper posterior part of the larynx brought on immediately a coughing fit, with alarming increase of the roar for a short time.

I put the case down to acute œdema of the larynx accompanying laryngitis, and was about to get a tube ready for tracheotomy, when I observed a curious symptom. The horse extended his head on his neck, contracted the lower cervical muscles, and made a distinct attempt to vomit. He repeated this three times in the course of some minutes, while I stood watching him. On now manipulating the œsophagus high up in the neck, the horse resisted a good deal, and again attempted to vomit.

I now felt a doubt as to my diagnosis, the symptoms suggesting choking. I resolved, at any rate, to pass a probang, and went for the instrument.

On my return, I had the horse removed to a smaller stable adjoining, where there was a better light and more room. I had only one man to help me, and he, although "no that fou," was only in a condition of Saturday-night sobriety. The horse was backed in a stall, and I attempted to put on a twitch. The animal struggled a good deal, and this brought on such an increase of the dyspnœa that I thought a fatal termination was impending. So, without more ado, I opened the trachea at once—or, at least, as soon as I was able—and put in a tracheotomy tube. This gave immediate relief.

I noticed that the saliva which still escaped in large quantities from the mouth was bloody. The blood must have come from the tracheal wound, but why, I am rather at a loss to say; probably the deep expirations drove the blood through the larynx into the mouth. The animal did not cough while I was operating. I now left the patient for the night. The next day one could not produce dyspnœa by closing the orifice

of the tube, and the horse was eating and drinking as usual. I have little doubt but that my first diagnosis was correct, but as the symptoms were puzzling it may be useful to record them.

I ought to say that nervous spasm of the larynx suggested itself as a possible explanation, and I gave five grains of morphia hypodermically without any appreciable effect.

CONGENITAL ANAL STENOSIS AND RECTO-VULVAL FISTULA.

BY O. CHARNOCK BRADLEY, PROFESSOR OF ANATOMY, NEW VETERINARY COLLEGE, EDINBURGH.

CASES of imperforate anus are, I understand, not of sufficiently uncommon occurrence to cause much comment when met with. Instances of communication between the rectum and the genital passages, combined with imperforate anus, are, however, rarer. Yet more rare, I think, may we consider the condition of affairs as set out below.

Recently, Professor W. Owen Williams asked me to make an examination of the rectal and genital passages of a sheep which had died from some obscure cause, not apparently connected in any way with the malformation to be presently described.

The sheep, a female, had attained the age of 7½ months, and during the whole of its life had been noticed to pass fæces through the pudendal orifice. It had been further noticed that the anal aperture was very small, indeed, at one time it was supposed not to exist.

In brief, the *post-mortem* examination revealed the following abnormalities:—

The rectum was much distended and had its walls considerably thickened for a distance of 65 m.m. The maximum thickness of this part of the tube was 10 m.m. This increased thickness was clearly due to circular red muscle.

The anus was only 4 m.m. in diameter, and the surrounding tissues resisted, in a marked degree, any effort to produce stretching.

At the posterior part of the floor of the rectum an aperture, 10 m.m. in diameter, communicated with the vulva. The genital passages themselves were quite normal.

The accompanying rough sketch will give some idea of the increase in thickness of the rectal wall, and also of the position of the apertures. The probe A passes through the constricted anus; B passing from the rectum into the vulva.

A.
B.

Several questions arise in the discussion of these malformations. Is it a case of modified atresia ani with genital communication? What is the significance of the muscular thickening of the rectum, and what is its relation to the fistula, *i.e.*, is the thickening causal or consequential?

These are questions which, I think, had better be left to the clinician and pathologist for solution, and to these they are commended for consideration.

Army Veterinary Department.

Extract from *London Gazette* of December 13th, 1898:—

Vet.-Capt. J. Raymond, F.R.C.V.S., to be Vet.-Major. Dated December 14th, 1898.

First Worcestershire and Warwickshire Artillery Volunteer Corps:—F. J. Taylor, Gent., to be Vet.-Lieut. Dated December 14th, 1898.

Departures.—The undermentioned veterinary officers embarked for India:—Vet.-Major J. K. Grainger, Vet.-Capt. D. J. Barry, and Vet.-Lieuts. C. B. M. Harris, W. J. Tatam, and W. A. Wood.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS,
10, Red Lion Square, W.C.

December Examination, 1898.

The Written Examination was held in London on the 9th, and the Orals and Practicals on and between the 12th and 15th December.

The following students of the Royal Veterinary College passed their Final Examination, and were admitted members of the Royal College of Veterinary Surgeons:—

Mr. E. A. Batt.
„ W. Cranston.
„ E. T. Goodall.
* „ H. Gamble.
* „ F. H. Ingersol.
„ C. H. Hylton-Jolliffe.
„ G. P. Knott.

*Mr. J. McLeod.
† „ P. J. Simpson.
„ T. J. Symes.
„ J. C. Sanderson.
„ J. P. Heath.
„ J. Robertson.
„ J. J. Kelly.

Marked thus * passed with 2nd Class Honours.
„ „ † „ „ 1st Class Honours.

The following passed their Third Examination :—

Mr. H. G. Allen.
„ H. Burrell.
„ F. W. Cousens.
„ D. S. Dickman.
„ D. G. Galt.
„ C. G. Hearn.
* „ G. T. Jackson.
Mr. B. L. Lake.
„ H. Mosely.
„ G. V. McNaboe.
„ J. C. Munby.
„ J. P. Stableford.
„ A. Spicer.
„ J. E. L. Still.
Mr. E. A. Wilshaw.

The following passed their Second Examination :—

Mr. T. G. Bush.
„ W. G. Evans.
„ G. May.
„ R. E. Mosedale.
* „ J. Nicholas.
Mr. W. M. Rowston.
„ C. E. Twivill.
* „ H. E. Whitemore.
* „ R. H. Pinching.
„ R. Peddie.

The following passed their First Examination :—

Mr. B. H. Benson.
„ A. A. Pownelly.
„ A. Edgar.
„ N. Gilford.
„ M. J. Kelly.
„ R. E. Klyne.
Mr. W. G. Litt.
„ A. C. Lloyd.
„ R. Morford.
„ G. H. Rainsforth.
„ J. R. Steevenson.
„ R. P. Williams.
Mr. G. H. Ward.

ARTHUR W. HILL, *Secretary.*

NEW VETERINARY COLLEGE.

The following passed their A Examination :—

Mr. C. W. Bourke.
„ R. Hayes.
„ R. Jones.
Mr. A. Mattinson.
„ H. Sleddon.
„ T. Walker.
Mr. A. Walker.

The following passed their B Examination :—

Mr. W. Greaves.
„ F. Moon.
† „ L. Pitts.
*Mr. M. Sowerby-Coo.
„ T. Weedall.
„ R. Scott.
†A. A. Walker.

The following passed his D Examination and was registered M.R.C.V.S. :—

Mr. W. M. Ogilvy.

The following passed his C Examination (three years), theoretical portion :—

Mr. J. Fairclough.

Marked thus * passed with 2nd Class Honours.
„ „ † „ „ 1st Class Honours.

DICK VETERINARY COLLEGE.

The following passed their A Examination :—

Mr. H. Mackay. | Mr. J. W. Rainey.
Mr. M. Purcell.

The following passed his B Examination :—

Mr. F. A. S. Moore.

The following passed their C Examination :—

Mr. P. Donovan. | †Mr. W. Ludgate.
„ T. Fleming. | „ F. W. Pawlett.

The following passed their D Examination, and were registered M.R.C.V.S. :—

Mr. T. H. Brown. | Mr. H. Leyshon.
„ E. Evans. | „ T. H. Tranter.

The following passed their C Examination (3 years) theoretical portion :—

†Mr. R. R. Arthur. | Mr. C. Farrar.
„ D. C. Barningham. | „ T. D. Hughes.
„ T. G. Doyle. | „ T. Morland.
„ J. A. Duff. | „ E. E. Stokes.

The following passed their C Examination (3 years) practical portion, and were registered M.R.C.V.S. :—

†Mr. R. R. Arthur. | Mr. J. A. Duff.
„ D. C. Barningham. | „ T. D. Hughes.
„ T. G. Doyle. | „ T. Morland.
Mr. J. Dixon.

GLASGOW VETERINARY COLLEGE.

The following passed their A Examination :—

Mr. A. V. Maynard. | Mr. J. S. Woodrow.

The following passed their B Examination :—

Mr. D. Frew. | Mr. J. Allan.
„ D. McAlliney. | „ C. Bell.
*„ J. P. Beck. | „ J. Danskin.

The following passed their C Examination :—

Mr. D. M'Hattie. | *Mr. A. K. Murray.

The following passed their C Examination (3 years) theoretical portion :—

Mr. D. Forwell. | Mr. A. F. Deacon.
„ A. Wooley.

The following passed their Final Examination, and were registered M.R.C.V.S. :—

Mr. R. H. Johnstone. | Mr. A. Wooley.
„ W. Kilpatrick. | „ A. F. Deacon.

Marked thus * passed with 2nd Class Honours.
„ „ † „ „ 1st Class Honours.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting was held on Thursday night, 1st December, at the Royal College of Veterinary Surgeons, 10, Red Lion Square, W.C. Mr. J. Sutcliffe Hurndall, the president, occupied the chair. There were present, fellows: Messrs. A. L. Butters, W. F. Barrett, F. G. Sampson, Villar, Reekie, Slocock, Stainton, Wragg, Nye, Prof. Macqueen, Messrs. Phillips, W. E. Taylor, R. Porch, McCormack, Upton, Flook, Perryman, Savourinin, Broad, Payne, Baxter, Bell, Reddish, Rogerson, Hunting, Dowell, W. J. Mulvey, Manton, Duff, Gellespie, Nunn, Simpson, Harrison, Clarke, Hagmeien, Roots, Rowe, W. S. Mulvey, and four visitors.

The minutes of the preceding ordinary meeting were read and confirmed.

Letters of regret at inability to attend were read from Mr. Wheatley, of Reading, Mr. J. A. W. Dollar (owing to the continued illness of his brother), and Professor Pritchard.

Elections—Nomination—Resignations.

The following gentlemen, nominated at the previous meeting, were unanimously elected fellows of the society: Messrs. T. Wolsey, M.R.C.V.S., W. L. Harrison, M.R.C.V.S., Trevor Spencer, M.R.C.V.S., and C. W. W. Brown, M.R.C.V.S.

Veterinary-Lieut. St. Clair Houston, A.V.D., was nominated for election as a fellow of the society.

A letter was read from Major Spooner tendering his resignation, which was accepted with regret.

The following letters were read from Profs. J. Penberthy and J. M'Fadyean :—

Royal Veterinary College, N.W.,
November 17th, 1898.

Dear Mr. Mulvey,

For the first time I have this evening read the report of the presidential address delivered at the meeting of the Central Veterinary Medical Society on the 3rd inst. The views expressed therein are so utterly at variance with my own convictions and daily practice, and what I regard as those of the profession of which I am a member, that I feel bound to tender herewith my resignation of fellowship of the Central Veterinary Medical Society, which I beg you will bring forward in due course.

I take this step with the utmost reluctance, as I am ever conscious of the benefits I have derived from association with my fellow members of this great representative society, and I retain a high appreciation of the honour done me by election to its presidential chair, and of the most cordial co-operation and assistance of which I was the recipient during my year of office. This feeling of regret is accentuated by the fact that your president is a fellow student, and our social relations of a cordial nature.—Believe me, with kind regards, yours faithfully,

JNO. PENBERTHY.

The Hon. Secretary of the Central V.M.S.

Camden Town, N.W.,
17th Nov., 1898.

Dear Sir,

I beg to tender my resignation as a Fellow of the Central Veterinary Medical Society, and I think it is due to the society that I should state the reasons which have compelled me, very reluctantly, to take this step. From the reports of the society's proceedings which have lately appeared in the *Veterinary Record*, I observe that the society has elected as its president for the ensuing year a member who is an avowed "homœopathist," and that this gentleman devoted his presidential address to impressing upon his hearers the advantages of following the principles of Hahnemann. I note further that no word of protest against the views expressed on this subject by the president was uttered by any of the members present. In common with the majority of people of education and ordinary intelligence I regard the so-called homœopathic doctrines as absolutely irrational, and I cannot with self-respect remain a member of a society whose actions give colourable grounds for supposing that it views with tolerance opinions

that would deservedly bring the veterinary profession into public disrepute if they were generally put into practice by its members.—I am, dear sir, yours faithfully,

J. M'FADYEAN.

To the Secretary of the Central Veterinary Medical Society.

Mr. WRAGG: I feel sure we have all heard these letters read with a great deal of regret, and although many of us differ from our president as regards what he said in his address, I do not think there is any reason why members should resign. I beg to move the following resolution :—

> That this society hears with much regret the resignations of Professors Penberthy and M'Fadyean read, and requests the secretary to write to each asking them to reconsider their determination.

Mr. SINGLETON: Being responsible for the next clause in the agenda, allow me to say it is to be very much regretted that Mr. Hurndall was not more guarded in his expressions.

The CHAIRMAN: I must call your attention to one thing, Mr. Singleton, which is that the presidential address, has always been a privileged address, and I cannot recollect any time when one has been criticised. We have now only to deal with the resignations of the gentlemen referred to.

Mr. SINGLETON: It is a matter of considerable regret to all, and to no one more than myself, that our president should have chosen such a singularly inappropriate opportunity to advance his views as that selected by him.

The CHAIRMAN: Do you propose to second Mr. Wragg's motion. If not I am bound to rule you out of order.

Mr. SINGLETON: I say this, that in your address on the 3rd of last month—

The CHAIRMAN: I cannot allow you to deal with that matter, sir. Does anyone second Mr. Wragg's motion?

Mr. SAMSON: I think their resignations should be accepted.

Major PHILLIPS: I beg to second this.

Mr. VILLAR: The two gentlemen in question are old standing members of this society, and I think we should do all in our power to get them to reconsider their decision. To this end I propose that a small deputation wait upon them.

Mr. BUTTERS seconded.

Mr. WRAGG having withdrawn his resolution, the motion was put to the meeting and carried.

It was then proposed that Mr. Wragg, Major Phillips. Mr. Villar, and the Hon. Secretary should form the deputation to wait upon Professors Penberthy and M'Fadyean.

Mr. BARRETT: Is it usual for a deputation to be formed without the president for the time being taking his place in same. I am quite sure that this is not a personal matter with Mr. Hurndall, and think that he should go.

Mr. HUNTING: Would it not make matters clearer if we took Mr. Singleton's business now so that we need not resume this discussion afterwards.

The CHAIRMAN: As far as I am concerned I shall be obliged to rule Mr. Singleton out of order, and I appeal to the gentlemen present to know whether they want the ordinary mode of procedure departed from, as you are well aware it is entirely without precedent to criticise the president's inaugural address.

Mr. HUNTING: If Mr. Singleton is to speak, as per item No. 6 on the agenda, why not have what he is going to say now.

The CHAIRMAN: I merely point out that it is entirely out of order and contrary to the traditions of the society to criticise a president's opening speech. However, if the members present decide to hear Mr. Singleton I have nothing further to say in the matter.

Mr. HUNTING: I will move that Mr. Singleton be now heard.

Mr. DOWELL: I second that.

Mr. UPTON: I propose that Mr. Hurndall go with the deputation. Seeing that it was not a personal matter I do not see what can be urged against him forming part of the deputation. With regard to his address I think it might just as well be criticised here as elsewhere.

The CHAIRMAN expressed his willingness to accompany the deputation. As previous speakers had said, he had no personal feelings against the gentlemen in question, in fact he entertained a high regard for them. It was quite a matter for the meeting to decide.

It was then put to the meeting and decided against the chairman joining the deputation.

Mr. WRAGG: As it is contrary to all precedent to discuss the president's address, I move that on this occasion we do not depart from the usual custom. I consider if we do we shall be censuring our president.

Mr. HUNTING: I object to it being called a vote of censure.

Mr. BARRETT: I am sorry to be in opposition to Mr. Wragg, or to make any remarks which might hurt the feelings of our president, but I think we should establish a most dangerous precedent if we decided to ignore subjects properly put on an agenda paper and not to discuss this matter. I most earnestly ask you not to support Mr. Wragg on this occasion.

Mr. SAMSON: I quite agree with the last speaker. I think Mr. Singleton has given due notice and should be heard.

The CHAIRMAN: The matter is now before you. It has been proposed by Mr. Hunting, and seconded by Mr. Dowell, that Mr. Singleton be asked to deal with the motion standing in his name. I think, however, that to allow him to speak on this subject will be a breach of order, and contrary to all the traditions of this society. In the circumstances I feel called upon to vacate the chair, and will ask Major Phillips to take my place.

Mr. VILLAR stated that he considered it undesirable for the president to leave the chair, and the sense of the meeting being taken and opposed to it the chairman remained in the chair.

Mr. Hunting's motion was then put and a majority declared in favour of Mr. Singleton being heard.

Mr. SINGLETON: What I shall say will be entirely confined to certain remarks of Mr. Hurndall's on the occasion of his last address to this society. Allow me to say in the first place that it is not because of Mr. Hurndall's avowed homœopathic principles that I rise to address you. Whilst disagreeing with him altogether as regards those principles I do not intend to refer to them on this occasion. In Mr. Hurndall's address he stated that there are those who seemed to "revel in inflicting torture on dumb helpless animals." I deny it, and I flatter myself that my acquaintance with the laboratories of London and other places is quite as extensive as that of Mr. Hurndall. I have never seen anyone "revelling in inflicting torture on dumb helpless animals." The selection of a president is based on the presumed ground of his fitness; it is therefore unfortunate that he should, at the first opportunity, totally demonstrate his unfitness. I say he insulted his profession! More than that he placed this society in a most humiliating position. I have already stated my views with regard to Mr. Hurndall's remarks in *The Veterinary Record*. I repeat what I there said, that it is not a charge which can be applied to members of the veterinary profession. We are not vivisectionists. The charge of the lower animals committed to our care is a noble charge; it is one that a prince of the Royal Family need not be ashamed of. Mr. Hurndall accuses us with being inflictors of torture upon the lower animals. I say that the C.V.M.S. will be false to its traditions if it does not insist on Mr. Hurndall at once vacating the chair.

The CHAIRMAN: Do you make a motion, sir?

Mr. SINGLETON: No.

Mr. HUNTING: It appears to me that unless Mr. Singleton makes a motion no one else can refer to the matter.

The CHAIRMAN: That is a point which my peculiar position precludes me from settling.

Mr. HUNTING: Mr. Hurndall, in his address to us, commenced by saying that it was not customary to discuss the presidential address, and he followed that remark by a paper with which he knew everyone in the room would disagree. On any other occasion he is at perfect liberty to have what opinions he likes and to express himself as he pleases, but on this occasion I say it was very bad taste to bring before us such an address. We are members of the Royal College of Veterinary Surgeons; we are professional men; and we are believers in the ordinary orthodox practice of medicine. We elect a president, and the first thing he does is to give us an address absolutely opposed to the views held by a large majority of the members of the Society—I say it is bad taste. It is just as bad as a Protestant congregation having to listen unwillingly to a Pagan or a Mormon preacher. I am rather surprised that there should be any resignations. I cannot help thinking that the two letters read to us reflect almost as much upon those present as upon the president. Both of the writers know that there is no discussion allowed on the presidental address, and I therefore think it is unfair of them to state that no one objected at the time to what Mr. Hurndall had to say.

Mr. UPTON: I think some of the president's remarks were very good. Of course it goes without saying that we do not all agree with his views, but I do not think he should be turned out of office. I myself should be strongly opposed to this.

Mr. BARRETT: I think the meeting is indebted to Mr. Singleton for the very temperate manner in which he has broached the subject. I must confess I entirely disagree with the presidential address, inasmuch as Mr. Hurndall is a member of our profession, and a highly educated member too. I think he was quite entitled to air his views. I have learned for the first time to-night that a presidential address cannot be criticised. I think good will result to the profession from the matter having been thoroughly thrashed out here. As Mr. Singleton has not brought a motion before the meeting, I think the matter should now drop. With regard to Mr. Hunting's remarks, however, he should bear in mind that, in electing a president, there are other influences which weigh—we have some regard to his character, his education, and the training he has received as a member of the veterinary profession. I do not think it is fair to say that we have elected Mr. Hurndall on account of his views. Is it to be considered for one moment that the general public believe we are in harmony with the sentiments brought forward in his paper. It is, of course, unfortunate that Mr. Hurndall should have taken advantage of the occasion to thrust homœopathy before us, and I deeply regret that his speech was ever delivered. We have respect for our president, however, and shall continue to support him whilst he occupies the chair. Personally, I have great regard for him, and, as we have elected him to the chair, I think it our duty to loyally support him.

Professor MACQUEEN: I came to this meeting with the full expectation of hearing an impeachment of the presidential address. I do not agree with the president's views as regards homœopathy, but I am not aware of any presidential address which has met with general acceptation. When we elect a president and listen to his address, are we bound by all that he says? It is not the custom of this or any other society to do so. Mr. Hurndall has strong views on homœopathy, and probably has the bad taste to air them. I remember some gentlemen who were very strong on the County Council Order respecting glanders. Was that a subject which everyone could go "arm-in-arm" with? Carry your mind back for 15 or 20 years, and you will

find disputes without number. If the president has erred on an occasion when he had an opportunity to air his views, I say he will reap his own reward, but for us to condemn the president is extremely absurd. I go further. I happened to be present at the meeting when Mr. Hurndall was elected, and added my vote to those which secured him in the chair, and I think that to censure him reflects discredit upon those who elected him. I don't think a man's professional views are taken into account at all in our selection of a president. We elect an officer simply because we admire him as a member of this society, although he may have eccentric or unorthodox views. You cannot call homœopathy unprofessional, neither can you haul Mr. Hurndall up before the registration committee. What I rose for, however, was to move that, in view of Mr. Singleton having failed to bring any definite motion before the meeting, the discussion which has taken place with reference to item No. 5 on the agenda, be not reported.

Mr. BROAD: I should like to add my views. My opinion from the first has been that we did not elect our president on account of his homœopathic views. I think, having chosen a president, we cannot go back on our action, although we all consider that it was not the best of taste to make such remarks as he did. I should certainly beg to second the motion of Professor Macqueen.

Mr. HUNTING: I beg to propose an amendment. I think it would be a great pity if the discussion on Mr. Hurndall's paper is not published, bearing in mind that the paper itself was published *in extenso*. No one desires to reflect anything upon Mr. Hurndall's personal character, far from it, but he has been guilty of bad taste in delivering such an address, and I think what the society has to say on the subject ought to be made public, as should also what the chairman has to say in reply.

The CHAIRMAN: I have regard for the traditions of this society, and do not intend departing from them to-night.

Mr. ROOTS: It is a very serious matter for one of the members to have brought forward a matter like this. From time immemorial it has been the custom, after the president's address, to simply pass a vote of thanks and then adjourn to dinner. And as to say that Mr. Hurndall was wrong in basing his remarks on homœopathy, why everyone knows that he is a homœopathist, pure and simple, and I cannot see that he did anything out of the way in advancing views which everybody knew he held. Whether we agree with him or not is quite another matter; no one is bound to swallow his views. I think it bad taste to "slate" the president simply because he said what he thought he ought to say.

Mr. VILLAR: We have heard a great deal about the rules and precedents of this society, and I think it very right we should adhere to them. It occurs to me there is no precedent for suppressing the report of our proceedings.

Mr. BARRETT: Referring to my previous remarks, I should like to put my motion in a more definite form. I move: "That this society, although strongly opposed to the president's opinions on homœopathy, has every confidence in him as president of the society and will continue to support him."

Mr. UPTON seconded.

Prof. MACQUEEN: Just a word of explanation. I have no objection to the publication of the report and what has transpired, except this, that Mr. Singleton's name appeared on the agenda paper as if he had intended to make a motion, and this he has not done, so that all the conversation which has ensued is entirely out of order. If Mr. Singleton had put a motion I should have been the last to object. I fail to see what gratification it can afford to anyone to read a report of what has taken place.

Prof. Macqueen's motion was then put to the meeting, but was not carried.

Mr. HUNTING: I beg to propose, as an amendment to Mr. Barrett's motion, "That this meeting is of opinion that the presidential address exceeded the

bounds prescribed by the objects of this society, and was directly opposed to the principle and practice of the fellows."

Mr. BARRETT: I do not consider this an amendment to my motion, and think it cannot be admitted.

The CHAIRMAN: I think you are right on that point, but I am anxious that everybody should have an opportunity to give expression to their views.

Mr. Hunting's amendment, being seconded by Mr. Dowell, was then put to the meeting. Not carried.

Mr. Barrett's original motion, "That this society, although strongly opposed to the president's opinions on homœopathy, has every confidence in him," was then put to the meeting, and carried.

(*To be continued.*)

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The winter quarterly meeting of the Lancashire Veterinary Medical Association was held at the Grand Hotel, Manchester, on Thursday, December 1st, 1898. J. McKinna, Esq., presided, and those present included Messrs. W. H. Bartrum, H. D. Chorlton, W. Dacre, E. Faulkner, A. K. Hart, Jas. Hart, Henry Hall, Alfred Holburn, T. Hopkin, Jas. W. Ingram, Wm. Kendall, Jas. King, Alex. Lawson, Hy. Locke (hon. sec.), E. H. Stent, W. A. Taylor, and J. B. Wolstenholme, of Manchester; Arthur New, Ashton-under-Lyne; J. H. Carter, Burnley; G. Howe, Buxton; Geo. Whitehead, Batley; R. C. Edwards, Chester; Jas. Laithwood, Congleton; R. O. Stafford, Crewe; E. E. Wood, Eccles; W. Ackroyd, Hebden Bridge; R. Rimmer, Kendal; G. G. Mayor, Kirkham; J. Marshall, Knutsford; Geo. Morgan and R. Roberts, Liverpool; Wm. G. Dixon, St. Helens; J. E. Scriven, Tadcaster; Wm. Woods, Wigan; Clarkson, of Garforth, Leeds. Messrs. J. S. Firr and R. G. Gillard, visitors.

Messrs. Chas. Dribble, Bradford; Wm. Kendall, Manchester; and Ralph Rimmer, Kendal, were elected members.

Election of Office-Bearers for 1899.

Mr. FAULKNER, in a few well-chosen remarks, proposed the re-election of the president for the ensuing year.

Mr. W. A. TAYLOR seconded the proposition, which was carried unanimously.

The PRESIDENT suitably acknowledged the honour which they had conferred upon him.

Mr. TAYLOR proposed Mr. James Laithwood as vice-president, and the PRESIDENT seconded.

Mr. WOLSTENHOLME proposed Mr. James King as vice-president, and Mr. FAULKNER seconded.

Mr. J. H. Carter, it was understood, remained a vice-president.

Mr. Wolstenholme, on the PRESIDENT'S proposition, seconded by Mr. HOPKIN, was re-appointed treasurer.

Mr. Harry Locke was re-appointed hon. secretary, on the proposition of the PRESIDENT, seconded by Mr. HY. HALL.

Mr. TAYLOR moved, and Mr. CARTER seconded, the re-election of Messrs. Faulkner and Jones as auditors.

It was proposed by Mr. ALEX. WATSON, and seconded by Mr. HOPKIN, that a committee, consisting of the office-bearers of the association, with power to add to their number, be appointed to arrange for the annual dinner next February.

Specimens.

Mr. R. G. GILLARD exhibited a pug dog upon which he had successfully performed the operation of gastrotomy in order to recover a lady's hat pin which the dog had swallowed.

The case created considerable interest, and the PRESIDENT moved that a hearty vote of thanks be accorded Mr. Gillard for his kindness in bringing it before the meeting. Mr. CARTER seconded the motion, which was carried unanimously.

Mr. E. H. STENT narrated and showed specimens of a case of generalised tuberculosis in a dog. A five-year-old bull dog, the winner of many prizes, was brought to him in a very emaciated condition, with slight cough and shortness of breath. Owner said it had been like that two months. Its temperature was 102·4, and the chest, on concussion, revealed a dullness, particularly on the right side. His diagnosis of the case was that of consolidated lung or neglected pneumonia. He painted the side with tincture of iodine, iodide of potassium, and ordered a milk and beef tea diet, but as there was no improvement in the animal's condition, the owner destroyed it. On *post-mortem*, Mr. Stent was surprised to find the glands of the chest an enormous size; they filled nearly all the chest. The kidneys were splendidly marked specimens of tuberculosis. The liver was affected; in fact, all the glands of the body appeared to have contracted the disease. The lungs appeared to all purposes healthy. On inquiry, the owner said he had fed the dog on raw liver, on which at times he found nodules, and no doubt the dog had got the disease in the feeding. Continuing, Mr. Stent said he happened to make *post-mortem* some time ago on the dog's parents, and there were no signs of the disease at all. Another point, and that was the dog did not like milk. The dog's chest was covered with nodules similar to those found in cattle. The bowels were also affected. That it was a case of tuberculosis was verified by microscopical examination.

Mr. WOLSTENHOLME: I have met with tuberculosis in the dog, and it is just possible that the disease is more common in that animal than we give credit for. We do not go to the same trouble of making *post-mortems* on the smaller patients as we do on the larger ones.

Mr. HOPKIN: I wonder what is the action of tuberculin in these cases? To my mind it looks like a case of tuberculosis from inoculation.

The PRESIDENT proposed that a very hearty vote of thanks be given to Mr. Stent for kindly bringing the case and specimens before the meeting. Mr. WOLSTENHOLME seconded, and the proposition was carried unanimously.

Mr. BARTRUM, in introducing his new system of tethering horses in railway horse boxes, remarked that the carriage of horses was performed before the railways were constructed. The first trace we had of it was a horse box taken by road for the purpose of moving race horses from one meet to another. When the railways came upon the scene they simply copied this road horse box for their first carriages, and even now they had not got very far away from it. He then explained the different methods adopted by the principal railway companies of securing horses in their horse boxes. The disadvantage of these fastenings was that they kept the objectionable bottom rope, which was the cause of many accidents to horses, but with his arrangements it was absolutely impossible for the horse to get its foot over the rope because the horse being fastened on the front noseband only took the rope higher out of its way when it plunged. Concluding, he pointed out the difference between the English and Scotch laws regarding the position of a consignee receiving a horse that had been injured in railway transit. In England negligence on the part of the railway company would have to be proved before any compensation could be granted, whereas in Scotland the railway company would have to prove that they had taken sufficient care of the animal in their charge.

Mr. DACRE expressed his indebtedness to Mr. Bartrum for introducing a matter of somewhat unusual interest. There were very few who had not met in the course of their practice cases where horses had been seriously damaged in the box while being carried by the railway companies, who, however, would never admit their liability in such cases. The injuries which had come under his notice had been to the front of the face and these were caused by the way in which the horses were shunted at the sidings. What struck him when Mr. Bartrum was showing his ingeniously contrived head stalls, was that it might be a good idea to pad off, or protect, that portion of the face which was usually injured in a collision of that sort. It was extremely hard for a quiet horse to be carried a matter of twenty miles only, and be injured as he had described.

Mr. HOPKIN opined, having seen a good number of injured horses, that the accidents, generally, arose from rough shunting, and from the peculiar character of the horse. A horse that had travelled all over the world would, most likely, in a very short journey, become unmanageable and seriously injure itself. The principal injuries to horses in railway transit were neck broken, spine and face injured. Would it not be an advantage to remove the manger, as he did not see the necessity for it, and it was a most fruitful source of accidents to horses. He suggested the carrying of the horse crosswise in the horse box as he understood they did in America. If that could be done the injuries would be less and not so serious as under the present system.

Mr. HART agreed with Mr. Hopkin as to the carrying of horses crosswise. This was the practice in Ireland, where there were seldom any accidents. There were no mangers in the Irish horse boxes.

Mr. FAULKNER expressed his indebtedness to Mr. Bartrum for having brought his subject before the members. If they could do anything to minimise or remove the serious injuries which horses sustained in railway transit it was their bounden duty to do so, and they would be deserving not only of the thanks of the public but of the profession. He had seen some dreadful injuries to horses in railway transit, caused, he thought, through their being fast in the horse box. Now, if they had a certain amount of play as depicted in Mr. Bartrum's apparatus that would be a material factor in many of those mishaps, and he would like to hear Mr. Bartrum's experience of the working of the new system. The number of horses carried under the system in a given time compared with the old system of tying.

Mr. HOWE hoped Mr. Bartrum would bring his patent under the notice of the Royal Society for the Prevention of Cruelty to Animals. In that way it would get publicity.

Mr. BARTRUM, in responding, said he would very seriously question the advisability of removing the manger *in toto*. He did not think it possible to carry, comfortably, the horses in a transverse direction. The English horse boxes were not wide enough. In reference to Mr. Howe's suggestion that the system be shown to the Royal Society for the Prevention of Cruelty to Animals, he might say that nearly 18 months ago he showed it to that society's secretary, who addressed him an exceedingly nice letter in complimentary terms on his apparatus. Replying to Mr. Faulkner's question as to the result of the trial of the new apparatus, the Midland Railway Company had for 18 months been running boxes with it in. Lord Lonsdale, to whom he had shown it, was more than satisfied with the 12 months trial of it.

The PRESIDENT proposed a hearty vote of thanks to Mr. Bartrum for his kindness in introducing his new system of tethering horses in railway horse boxes. He was sure the members felt greatly indebted to him for doing so, as it had afforded them considerable pleasure and much instruction. They were always desirous of minimising the pain and suffering of animals in transit. Mr. Bartrum's method was by far the best he had seen.

Mr. FAULKNER having seconded the proposal with pleasure, and expressed the hope of seeing Mr. Bartrum amongst them on many more occasions, it was carried unanimously.

Mr. WOLSTENHOLME exhibited the skull of a horse—with extensive absorption of bone from the face and lower jaw due to epithelioma—together with sections from the same shown under the microscope.

Mr. JAMES KING quoted and submittted a specimen of the case of a pig with two swollen joints. He examined the animal for tuberculosis, but could not find any lesions of the disease. The peritoneum was quite smooth and bright. The pig weighed 102 lbs., and, with the exception of the swelling, which he put down to rheumatics, he passed it as fit for human food, but on cutting the carcase up one or two little symptoms of tuberculosis were seen in the bones. On discovering this the carcase was, of course, condemned. He submitted a specimen of another case—that of swine fever—in order to show how far this disease can be advanced without indicating it on the outside. On November 26th, when he inspected some pigs brought from the Croft at Beswick, they seemed all right and perfectly healthy. He saw them again on the following Monday, when they were in like condition, and he passed them as sound. However, in the afternoon two of them began to look a little dull. The men sent them to the abattoir, when it was found on *post-mortem* that the lungs and bowels of both pigs were affected with swine fever. His other specimen was one of necrosis in a calf's liver.

Mr. FAULKNER showed a specimen of osteoporosis occurring in a six year old chestnut lorry horse.

A vote of thanks to the president terminated a most successful meeting.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE last meeting of the Scottish Metropolitan Veterinary Medical Society was held in the Clarendon Hotel, Edinburgh, on Wednesday, 30th November. Mr. Andrew Boyd Melrose presided over a fair attendance of members. Members present: Principal Williams, Principal McCall, R. Rutherford, M. Inglis, Forfar; Connochie, junr., Ayton; Borthwick, Kirkliston; Major Whitfield, and Lieut. Cochrane, Army Veterinary Department; Professor McLauchlan Young, Weir, Kirkcaldy; McArthur, Perth; A. Hutcheson, Esq., Beechwood; Aitken, junr., Dalkeith; the President and Secretary, and many visitors.

The business was introduced by Mr. Peter Moir, the hon. secretary, who intimated that he had received letters of apology from several prominent members, viz., Messrs. John Cameron, Berwick-on-Tweed; Thomson, Aberdeen; Elphick, Newcastle; Clark, Coupar-Angus; Porteous, Galashiels; Leck, Tarbet, Argyllshire.

The HON. SECRETARY then read the minutes of the last meeting. The minutes were approved and signed.

New Members.

The HON. SECRETARY then submitted the names of Mr. Barclay (Dunfermline), and Mr. Porteous (Galashiels), as those of gentlemen who had been nominated for admission as members. These were unanimously admitted.

Office Bearers.

Mr. BOYD said it was his privilege, as retiring president, to nominate as his successor Mr. Inglis, Forfar.

Mr. MOIR seconded the nomination.

Mr. INGLIS thought it would be better if the society secured some older member as president, but was overruled, and his election carried unanimously.

Mr. BOYD proposed the re-election of Mr. Moir as secretary and treasurer.
Professor WILLIAMS seconded the nomination.

Mr. MOIR declared he was tired of the post, and was desirous that honours should go round, but was prevailed on to again accept office.

The Question of Docking Horses.

The President (Mr. BOYD) then proceeded to read a paper on the subject of the docking of horses. He regretted the subject had not been discussed, as expected at their last meeting and a resolution adopted, which might have had the effect of preventing in a legitimate way, the most absurd and stupid motion, passed, and adopted by a majority of two of the Royal Agricultural Society of England. That motion prohibits the exhibition at the society's show of foals, yearlings, and two-year-old horses that were docked, but carefully or otherwise omitted any mention of older horses. Mr. Boyd proceeded by referring to a paper in the March, 1895, number of the *Nineteenth Century* entitled, "Wanton Mutilation of Animals," by Dr. Fleming. That paper he characterised as a curious mixture, treating as it did of mutilation as practised in the year 785 A.D., as well as of ear cropping, nostril slitting, and other vagaries foreign to our age. It seemed, however, as if the Royal Society for the Prevention of Cruelty to Animals thought this literary work befitting our age as the society had ordered its distribution. Again, the Royal Society for the Prevention of Cruelty to Animals had tried to prove that docking of horses, even as performed by veterinary surgeons, was cruel, but the society lost its test case, while the Scottish Society had now intimated, through the medium of the newspapers, their intention of prosecuting. The time had therefore come when the veterinary surgeons who knew the benefit and necessity of docking, should speak out. In so doing three questions naturally presented themselves for consideration: First, was docking necessary? Secondly, did it add to the commercial value of a horse or mare? and thirdly, was it cruel? He was of opinion that it was necessary, and that it did add to the commercial value of a horse, or mare, especially those used for harness, or cart work. Many horses made every endeavour to get their tail over the reins, or splashboard, and—like crib-biting and wind-sucking—this persistent use of the tail became a vice. In the majority of cases when the horse gained his point there was great danger ahead both for horse and driver. To put the point a little stronger, take the case of a mare in season getting her tail over the reins, or splashboard, and what then?—a cry for a stone wall, and an umbrella. Undocked horses used for harness work were a great danger to life and property. Supposing the horse got its tail over the splashboard it did not always kick, still there was both pain and inconvenience, which would be avoided if the horse was docked. In the case of "coup" carts again, where a horse's tail was constantly jammed, was there not far more pain from that cause than from the simple operation of docking? He further maintained that undocked horses that did hard work suffered great inconvenience owing to the heat generated by the long tail. He also declared that docking, properly performed, was one of the simplest operations. There was no doubt he considered that the anti-docking raid was only the outcome of sentiment among the unpractical. If the docking of horses was to be stopped because it was considered cruel, then of necessity so must the castration of lambs, the castration of horses, and all other necessary operations—operations more painful than docking. In conclusion he ventured the opinion that veterinary surgeons would not continue their subscriptions to the R.S.P.C.A. if that society interfered to prevent such a necessary operation as docking. He moved:—"That the society should declare its opinion that the docking of horses was not cruel, that it added to the commercial value of the horse, and that it was necessary."

Discussion being invited, Principal WILLIAMS said, while agreeing generally with Mr. Boyd, he thought there was one weak argument in his paper, namely, that docking added to the commercial value of the horse. He believed, however, that the operation in the case of harness and cart horses was necessary, and not very cruel. When they had cases of horses immediately after the operation being perfectly well and wanting to feed, he thought it proved there was no great pain in such an operation. As to the dangers from a horse's tail getting over the reins or splashboard, which he recognised, he characterised as nonsense the statement made in London that a horse with a short tail would get into such a position easier than with a long tail. He had seen many accidents from such a cause. Still while supporting the operation as a preventative of a great deal of evil to the animal, and as preserving human life, he sympathised with the Agricultural Society. It seemed to him a horrible sight to see the tails of foals docked. The animal had to go out to grass for a few years, and had no weapon of defence, whereas if the tail had been left long until the horse was ready for work the evil would have been diminished. He instanced the case of a foal 48 hours old, and unwell at the time of being docked, as a very cruel case, but in conclusion he gave it as his opinion that tying up a horse's tail was a far greater piece of cruelty than docking.

Professor McCALL said there could not be two opinions as to docking, when circumstances warranted the operation, but he knew clients who docked every foal they bred, and every horse they purchased, because they thought the animal would look better. On the other hand he held, if the animal had a long tail, and got it over the reins, that the operation was not cruel, but necessary. So he thought there were only two opinions. In some cases it was necessary, as when greater evils were thereby avoided, but in cases where it was done merely as matter of fashion, then it was cruel. As a profession, he thought it would be wrong for them to allow a law to pass prohibiting docking. It might safely be left with the veterinary surgeon to decide when the operation should be performed.

Mr. RUTHERFORD (Edinburgh), agreed that docking was very often necessary, and also agreed with Professor Williams' remarks as to the commercial value argument. He did not think they could do any good passing resolutions as to the docking, which originated in fashion. They should approach the societies holding large horse shows in the country. They would succeed if they could show it was cruel, and it would be made unfashionable. He thought the practice of docking generally might be left to the common sense of horse owners with the advice of veterinary surgeons. If a law was passed prohibiting the practice it would be performed surreptitiously.

Major WHITFIELD considered the difficulty might be overcome if a veterinary surgeon was empowered to grant a certificate that docking was necessary. He thought it was greatly a question of fashion, and that docking was performed because owners believed it added to the value of a horse to dock the animal.

Professor WILLIAMS here interposed to emphasize the fact that veterinary surgeons benefitted very little from docking. In large cities horse owners generally docked their horses themselves.

Mr. HUTCHESON, Beechwood, Perth, speaking as a farmer, said he had tried undocked horses, but always had to put them away as they had contracted some vice. With "coupcarts" it was impossible to work them without docking. He had always been a supporter of the Royal Society for the Prevention of Cruelty to Animals, but was against them strongly on this question. They could not get a painless operation, and there was less cruelty in docking than in allowing long tails. If a prohibitive law was passed, he declared there would be a great "hue and cry." Docking should be per-

formed by skilled men, and he stated in conclusion that he never docked horses to raise their commercial value.

Mr. P. MOIR said he could not differ on any point from the other speakers, but he was reminded that the question had been thrashed out before, and a resolution passed by the Royal College of Veterinary Surgeons 14 years ago, in consequence of a prosecution which had taken place. That resolution, which he submitted to the present meeting, affirmed that docking of horses was a surgical operation, requiring skill and anatomical knowledge for its performance, and that there were many circumstances making the operation necessary.

Mr. RUTHERFORD maintained they had proof that docking did not require anatomical knowledge.

Professor WILLIAMS thought unskilled men would cut through the bone.

Professor MCCALL related a case of "unskilled" docking where four animals died. He thought the operation should be performed by a professional man.

Mr. RUTHERFORD said veterinary surgeons seemed to take little care whether they cut through the bone or not.

Professor MCCALL pointed out that if they cut through the bone they would cause a disease, the treatment of which required a professional man.

Professor MCLAUCHLAN YOUNG, Aberdeen, and Professor Williams at this stage suggested the amendment of the president's motion in respect that it did not make it imperative that a professional man be employed, and that the word "cruel" was not proper. Professor Williams pointed out that a prosecution would follow only where unnecessary cruelty had been used.

The PRESIDENT declared that veterinary surgeons in the city knew nothing about docking. He instanced cases from his experience where blacksmiths had performed the operation with rusty implements.

Mr. MOIR here withdrew his motion in favour of that of the president, which was amended to read that docking was not unnecessarily painful, and under many circumstances necessary.

Mr. RUTHERFORD then moved that the society condemns indiscriminate docking; that it recognises docking as frequently necessary, and that the operation should be performed by a veterinary surgeon.

This motion of Mr. Rutherford's was declared to be the finding of the meeting.

(*To be continued.*)

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE quarterly meeting of this association was held at the Star and Garter Hotel, Wolverhampton, on Tuesday afternoon, November 8th. The president (Mr. H. J. Dawes, F.R.C.V.S.) occupied the chair, and there were also present: Dr. McCall, Glasgow; Messrs. J. Bainbridge, Wellingboro'; J. Blakeway, Birmingham; E. Beddard and W. Beddard, Wolverhampton; Dr. Manley and H. Collett, West Bromwich; W. Carless, Stafford; W. S. Carless, Worcester; A. B. Forsyth, Cannock; W. Grasby, Daventry; T. J. Merrick, Northampton; H. E. Pemberton, Bridgnorth; A. E. Paley, Walsall; G. Smith, Tunstall; R. C. Trigger, Newcastle; G. Wartnaby, Burton; and J. Malcolm, hon. sec. Visitors: Messrs. Martin, Wellington; and R. C. Green, Dudley.

Apologies for Non-Attendance.

The HON. SEC. announced the receipt of letters or telegrams of apology for non-attendance from the following members: Professors Axe, M'Fadyean, Penberthy, and Pritchard, London; Williams, Edinburgh; Sir H. Simpson, Windsor; Messrs. Olver, Tamworth; Blunt, Lutterworth; Barling, Hereford;

Simpson, Maidenhead; Brooks, Handsworth; Gold, Redditch; Barling, Ross; Parks, Wellingboro'; Ludlow, Mansfield; Russell, Sandiacre; Barrett, Nuneaton; Spencer, Kettering; Crowhurst, Stratford; Reynolds, Daventry; Wilson, Birmingham; Cartwright, Wolverhampton; Hodgkins, Hanley, etc.

Nominations for Membership.

The HON. SEC. nominated for membership of the association Mr. R. L. Green, of Dudley.

Mr. BEDDARD nominated Mr. Martin, of Wellington.

These names will, in accordance with rule, be submitted for election at the next meeting of the association.

The Proposed Grant to the Midland University.

A resolution upon the above subject stood upon the agenda in the name of Mr. F. J. Taylor, who, however, wrote to state that an unforeseen circumstance made it quite impossible for him to attend. He asked that the matter might be brought forward in his absence, and worded his resolution as follows:—"That a sum of £25 be contributed towards the funds of the proposed university by the Midland Counties Veterinary Association for the encouragement of the educational movement now on foot, and as an incentive to the recognition of our profession on its educational board, either as an entirely independent veterinary department, or an agricultural department under veterinary supervision."

The HON. SEC. said that, to put the matter in order, he had no objection to formally moving the resolution.

Mr. BEDDARD said that if the contribution were reduced to £15 he would be very pleased to second the resolution.

The PRESIDENT did not think they ought to take such a liberty in Mr. Taylor's absence.

The HON. SEC. suggested that, as there was no particular hurry in the matter, it might stand over till the next meeting, when Mr. Taylor would probably be present.

Mr. TRIGGER begged to move an amendment to that effect.

Mr. JONES seconded the amendment, which was carried *nem. dis.*

A Financial Statement.

Mr. WARTNABY incidentally inquired what amount of money the association had in hand.

The HON. TREASURER replied that they had at present a credit balance of £175 6s. 3d. He advised the members to be careful in their disbursements, as that was a small sum considering the numerous claims that were being made upon their funds.

The International Congress at Baden-Baden.

The PRESIDENT asked the result of the inquiries which the hon. sec. was instructed at the last meeting to make into the proposal to send delegates to the International Veterinary Congress to be held at Baden-Baden next year.

The HON. SEC., in response, stated that he had addressed certain questions on the subject to Mr. A. C. Cope, of the Board of Agriculture, who had the matter in hand. That gentleman replied as follows:—

October 19th, 1898.

DEAR MR. MALCOLM,—

I forward you a copy of my letter, which, I think, explains what you want to know. Anyone can send a subscription, and whether he attend or not, he will get a copy of the proceedings sent to him. My idea, which has not yet been taken up in the manner it de-

serves, was that each association might send a delegate, and pay, say his railway fare to Baden and back. They might also pay the subscription, 12s., and keep the document for reference in the archives of the society. I would suggest that you send your subscription direct to Dr. Lydten, chairman of the committee of the congress, Baden-Baden, and he will send you a receipt. If I can give you any further information, pray write to me.

Yours very faithfully,
ALEX. C. COPE.

The PRESIDENT: I will now move the resolution of which I gave notice at the last meeting, namely, "That this association send delegates to the International Veterinary Congress at Baden-Baden, and pay the necessary subscription and travelling expenses."

Mr. TRIGGER said he had great pleasure in seconding the resolution, because he thought it was essentially a case in which they would be spending money wisely and well. It need not be an extravagant sum, but it was time that an important association like this should be represented at all great veterinary gatherings.

The resolution having been carried unanimously,

Mr. TRIGGER moved a further resolution to the effect that the association's delegates consist of the president and the hon. sec. for the time being.

Mr. CARLESS (Stafford) seconded.

Mr. TRIGGER, before the resolution was put, obtained leave to amend it by adding words authorising the president and hon. sec., if it was inconvenient for them to undertake the duty, to appoint deputies.

Mr. CARLESS, as the seconder, having agreed to this, the resolution, as amended, was adopted.

The Victoria Benevolent Society.

The HON. SEC. reported the receipt of a letter from Mr. W. F. Barrett, Hon. Sec. of the Victoria Veterinary Benevolent Society, asking for further assistance, and also furnishing the association with a copy of their bye-laws. Mr. Barrett, in the course of his communication, wrote: "£700 has already been received, but as there are some members of our profession who are urgently in want of help, it is to be hoped that each veterinary society will aid us in the good work, by contributing either a donation or an annual subscription."

The PRESIDENT pointed out that they could not do anything at the present meeting, as a notice of motion was necessary before any money could be spent. To save time, therefore, he would move that the matter be placed on the agenda for the next meeting, and that a sum of money be then granted, if deemed necessary.

Mr. BEDDARD seconded the motion, which was carried unanimously.

A Letter of Resignation.

The HON. SEC. read a letter from Mr. A. Green, of Dudley, resigning his membership of the association, and asking that his son might be elected in his stead. He (the hon. sec.) said they would be very pleased to welcome Mr. Green, Jun., amongst them, but not at the expense of his father. Mr. Green was an old member, and was highly esteemed by one and all.

The PRESIDENT said they could not afford to lose Mr. Green, and he moved that the resignation be not accepted until Mr. Green had again been communicated with.

The HON. TREASURER, in seconding, said he would communicate with Mr. Green, and endeavour to persuade him to change his mind.

The motion was unanimously agreed to.

Pneumonia in the Horse and its Treatment.

by prof. j. m'i. m'call, glasgow.

This disease, on account of its widespread existence, frequent occurrence, serious after effects, and in some cases great mortality, is well worthy of our attention and consideration. As a recognised disease of horses it has been commented upon and described since the earliest days, and treated with a greater or lesser degree of success.

In looking over some of the older works on veterinary science, I find that Taplin, in his book entitled "The Gentleman's Stable Directory or Modern System of Farriery, 1780," gives a very fair and correct description of this disease, and although his description and treatment may not appeal favourably to all of us, yet it undoubtedly was an advance in the right direction upon those of his predecessors. He says that coughs and colds which may end in pneumonia, if early discovered by an industrious servant, or an attentive master, generally submit to immediate care and simple remedies, particularly if proper respect is paid to the excellent maxim of "Never letting alone till to-morrow what may be done to-day," and the method of treatment he adopted was bleeding, followed in a few hours by a mash of bran and oats equal parts, with a sufficiency of boiling water and the addition of aniseed and liquorice powders of each one ounce and four ounces of honey. Some two hours afterwards he prescribed 2 oz. nitre in chilled drinking water. This was continued for a few days, and with good dressing and gentle exercise a cure was effected. On the other hand, if the cold is suffered by penury or neglect to become obdurate, then results accrue which no future assiduity can relieve, and confirmed cough, asthma, broken wind, or consumption supervene.

In respect to these disorders Taplin says, "We have the authority of a century past to prove that they are caused by 'the impetuosity of the blood's rushing into the lungs,' or 'in the air vessels,' or 'in blood vessels,' or 'in tubercles,' or 'in ulcers,' or 'in too full feeding, etc.'" We are likewise told that they are in general incurable, and are then instructed to proceed with mercurial physic, alterative purges, cordial balls, balsam of Peru, sulphur, squills, tar, etc.; one to be continued a week or ten days, another a fortnight, and a third for two months or longer, and finally, after having made the hopeful and expensive tour through almost all the materia medica to cure what is in general incurable, we may enjoy the pleasing sensation of knocking our horse on the head and most feelingly acknowledge the remedy worse than the disease. Taplin continues by saying, "I shall endeavour to avoid this beaten track of duplicity and communicate some instructions from the dictates of nature and reason which have been hitherto most infamously treated and most shamefully abandoned through every system of equestrian medical practice." He thereafter proceeds to condemn and explode, upon every possible occasion, the old and slovenly method of giving medicines of almost every kind in drinks, and advocates their incorporation in a mash or the contents of a ball where circumstances will permit. He says, "This plan generally meets opposition from the vulcanian advocates for ancient practice, who would as soon relinquish their leather aprons as their opinions. The prodigious and consequential ceremony of providing the ale, powders, twitch, horn, and apparatus, with the additional pleasure of spilling half the contents, are professional dignities not to be readily given up, more particularly the operator's privilege of drinking a part of the ale or strong beer to be perfectly convinced that it is not too stale for the purpose." He then states his reasons for objecting to the use of drinks which are waste incidental to the administration, the unnecessary sickness produced in the patient from the nauseous medicines given in the liquid form, etc., and he thereafter advocates repeated

steamings of the head, early bleeding, and a stimulating drench first as he wishes a hasty action of the medicine, and this to be followed up by cordial, restorative, and expectorant balls, and attention to the general surroundings of the patient.

Now, gentlemen, this may seem to you a digression, but when we consider the methods of treatment at present adopted, we are bound to admit that Taplin was not so far wide of the mark after all. But to return to the subject proper of my paper.

Pneumonia is the term given to the following pathological condition, namely, inflammation and its results in the air vesicles and connective tissues of the lungs. In the horse it is met with in two forms—the simple and the specific—each of which is worthy of consideration. Almost invariably in practice we see it in the simple form, but I am also convinced that occasionally it does exist as an undoubtedly specific and contagious disease.

In general, the causation of pneumonia may be traced to exposure to cold associated with damp and draughty conditions when the animal has been over-heated or exhausted from work, or in a debilitated state of health, mechanical irritation, as, for example, the passage of liquid accidentally into the trachea and lungs when giving a drench, or the piercing of the lung by a broken rib or foreign body, as in the case of severe accidents, falls, etc., by road or field, the existence of other diseases in the lung setting up, by their presence and the irritation produced, a pneumonic condition, *e.g.*, glanders, tuberculosis, septic emboli, etc. The presence of a specific virus as in equine contagious pleuro-pneumonia.

(*To be continued.*)

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

THE autumn meeting was held at the Queen's Hotel, Leeds, on Friday, October 28th, Mr. W. F. Greenhalgh (president) of Leeds, presided, and there were also present the following members:—Messrs. A. W. Mason, G. E. Bowman, F. W. Somers, S. Wharam, A. McCarmick (hon. secretary), H. G. Bowes, all of Leeds; J. E. Scriven (hon. treasurer), Tadcaster; J. Clarkson, Garforth; T. Fletcher, Sheffield; M. Robinson, J. Hodgman, and G. Whitehead, Barnsley; H. Newsome, Bradford; F. W. S. Clough, Morley; H. Snarry, York; J. Atcherley, Harrogate; W. W. Norwood, Conisboro'; J. W. Lazenby, Boston Spa; R. C. Thompson, Doncaster; and J. McLean, Dewsbury. Among the visitors were Professor W. R. Davis, New Veterinary College, Edinburgh; Veterinary-Captain C. E. Nuthall, and Mr. G. E. Hamilton, Leeds.

Letters of regret at inability to be present were read from Professors McFadyean, Penberthy, and Pritchard; Messrs. Briggs, Halifax; J. Abson, Sheffield; and James Cooke, Scarborough.

A letter was also read from Principal Williams acknowledging the association's resolution of condolence and sympathy with him on the death of his wife.

Nominations and Elections.

The PRESIDENT annonnced that he had a letter from Mr. W. G. Scholefield, of Pontefract, wishing to rejoin the association. He accordingly nominated that gentleman as a member.

Mr. CLARKSON nominated Mr. Hollings, of Methley.

The SECRETARY intimated that he had received a letter from Mr. Pratt, of Ripon, resigning his membership of the association, one of the grounds being that he was no longer in active practice. He added that he should still take

the greatest interest in veterinary science and wished the association every success.

The PRESIDENT and Mr. MASON voiced the general regret of the meeting at the announcement of losing such a valuable and old member, and suggested that the acceptance of the resignation should be postponed, pending an endeavour to induce Mr. Pratt to alter his decision. Mr. Mason said they did not like to lose old members, and they would be glad if Mr. Pratt could see his way to join them at least once a year at the annual dinner. The suggestion was unanimously agreed to.

On the motion of Mr. CLARKSON, and seconded by Mr. FLETCHER, Mr. Gentle, of Otley, was elected a member. The meeting also assented to the election of Mr. Waller, of Brighouse, the resolution being moved by Mr. CLARKSON, and seconded by Mr. BOWES.

Financial.

The TREASURER presented his annual balance sheet showing a sum of £5 13s. 10d. in the bank, after meeting the expenditure of the year and accounts of £6 1s. relating to 1897. The subscriptions in arrear amounted to over £38.

Mr. CLARKSON moved the adoption of the balance sheet which, taking into consideration the extra payments, he regarded as satisfactory. This satisfaction, however, was somewhat modified by a large amount of arrears, and he thought they ought to deal with the members who would not pay their subscriptions by striking their names off the books.

Mr. WHITEHEAD seconded the resolution.

The SECRETARY, in reply to Mr. CLARKSON, said there was a rule that members four years in arrear with their subscriptions should be struck off the books.

The TREASURER said there were seven members whose subscriptions amounted to £22 1s. One member owed for eight years.

On the proposition of Mr. MASON, and seconded by Mr. THOMPSON, the secretary was instructed to write to the seven gentlemen in question to the effect that if they did not pay the subscriptions owing, their membership of the association should cease.

The TREASURER further laid before the meeting a statement of account from the committee appointed to entertain the National Veterinary Medical Association on the occasion of their visit to Yorkshire in August. Twenty-eight members of the Yorkshire Association subscribed to the entertainment fund, and there was now a balance in the bank and in hand of £11 13s. 9d. A discussion took place as to how this sum should be applied. It was suggested that the money should be handed over to the Yorkshire Association, and the suggestion found general acceptance, though a definite decision was deferred till the next meeting, when the proposal will be brought up on the business agenda.

Revision of Rules.

Mr. CLARKSON called attention to the fact that this was the year when the rules of the association should be revised, and he accordingly moved the appointment of a sub-committee to undertake the work and to report to the next meeting.

Mr. MASON seconded, and the resolution was agreed to. The committee, it was further resolved, should consist of the president, treasurer, secretary, Mr. Clarkson, Mr. Mason, and Mr. Whitehead.

Election of Officers.

Mr. CLARKSON said that for the presidency he had to submit the name of a gentleman whom he believed would make a hard-working president. He

alluded to Mr. Fletcher, and he thought his proposal would be accepted by the meeting. Mr. HODGMAN seconded the proposition.

Mr. MASON, in supporting, said they would be delighted if Mr. Fletcher would accept the position. Although living a long distance from the place of meeting, Mr. Fletcher was a frequent attendant and took a deep interest in the working of the association.

Mr. SOMERS likewise supported, promising to help Mr. Fletcher all he could, and the resolution was agreed to unanimously.

The PRESIDENT expressed pleasure at the appointment of Mr. Fletcher as his successor, and assured the newly-elected president of every possible support.

Mr. FLETCHER said he thanked them most heartily for the honour they had done him. The question of his nomination was mentioned to him a short time ago, but he had some doubt as to whether he could satisfactorily discharge the duties. At any rate he would do his best. He would say more in his address at the next meeting.

On vacating the chair at the end of the year, Mr. Greenhalgh becomes an *ex-officio* vice-president. Two vice-presidents had now to be elected. The TREASURER proposed that Mr. Somers, a very energetic member of the association, should be one of the vice-presidents, and this was seconded by Mr. MASON and adopted. Mr. Clough was also appointed, on the motion of Mr. WHITEHEAD, and seconded by the SECRETARY.

Mr. FLETCHER moved the re-election of Mr. McCarmick as hon. secretary, and Mr. WHARAM seconded, the resolution being adopted.

On the motion of Mr. MASON, and seconded by Mr. SOMERS, Mr. Scriven was again appointed hon. treasurer.

Mr. Greenhalgh and Mr. Mason were elected auditors.

The Dublin Health Congress.

Mr. WHARAM, the delegate of the association at the Dublin Congress of the Royal Institute of Public Health, reported on the proceedings at that gathering. He produced some interesting photographs taken in connection with the congress, and said that the subject for discussion which mostly interested veterinary surgeons was "Tuberculosis in its Relation to Public Health." Great stress was laid by the majority of the speakers upon the examination of the attendants in dairies and cowsheds. It was pointed out that there was not so much real harm from the milk and meat as from the fact of contamination from people employed in milking cows and in distributing the milk. There was practically nothing new said, and the real object of tuberculosis being chosen as a subject of chief discussion was to bring its importance more prominently before the public.

On the motion of Mr. SOMERS, and seconded by Mr. SCRIVEN, Mr. Wharam was heartily thanked for representing the association at the congress, and for his report.

CONSTIPATION IN ANIMALS.

BY PROFESSOR W. R. DAVIS, NEW VETERINARY COLLEGE, EDINBURGH.

Mr. President and Gentlemen,—The terms of Mr. Greenhalgh's invitation to me to read a paper before your society were so kind that in spite of many misgivings as to my ability, in the short time at my disposal, to get together anything worthy of the occasion, I felt that I had hardly any option but, out of sheer gratitude, to make the attempt. The choice of the subject is mostly Mr. Greenhalgh's, and he remarked, "it is one that is sure to lead to a healthy discussion." If that is accomplished I shall be satisfied.

By the term constipation we understand a condition in which the fæces

tend to be retained in the bowels, the stools occurring too seldom or the amount passed too small. The method by which the bowels' contents are passed along consists in a vermiform movement of the intestine—its peristalsis. Arrived in the rectum, the presence of fæces there gives a reflex call to the abdominal muscles which, together with contraction of the muscular coat of the rectum, causes their evacuation.

Peristalsis is produced by contraction of the muscular coat of the bowel. This coat consists of a longitudinal layer—pretty evenly distributed over the small intestines, but in the cæcum and colon collected into one, two, three, or four bundles, which being shorter than the intestine, wrinkle it into sacculi—and a circular coat much thicker than the longitudinal one. A plexus of nerves lying between these two muscular layers supplies the necessary impulses to contraction. It may be said that there are nervous arrangements in the wall of the intestines for movement and for secretion apart from the nerves coming from the brain and cord to the bowel. The normal movements are moderate and the animal is unconscious of them, but under certain conditions there may be tonic contraction, the bowel becoming cord-like, and this abnormal peristalsis gives rise to great pain. Greatly increased peristalsis hurries along the bowel contents and diarrhœa results; at other times the peristaltic movement is diminished and induces constipation. The stimulus to contraction is supplied by indigestible residues of the food and by certain salts of the food. These give mechanical and chemical irritations, and then results nervous impulses from Auerbach's plexus, which originate the movement of the intestines. The vagi are the accelerator nerves of the intestines, and the splanchnics are inhibitory, so that irritation of the vagi gives increased peristalsis, and irritation of the splanchnics diminished peristalsis. Irritation of the intestine may therefore give different results, peristalsis increased and diarrhœa, or diminished peristalsis and constipation.

Constipation can be the result either of a fault of the nerves or a fault of the muscles. As a rule, the real cause lies in want of stimuli to, or inactivity of, the nerves, and not in alteration of the muscles. The horse, however, has an affection peculiar to himself (and the ass and mule) which directly leads to constipation and obstruction by a weakening or paralysis of the muscular coat of the intestines, as we shall see later on. Conditions outside the bowel may give rise to constipation. Brain affections are often accompanied by torpidity of the bowel, and, again, disease of the genito-urinary system may, by reflex action through the splanchnics, inhibit peristalsis and give a like result. Fistula in ano may, perhaps, in a like manner, produce the similar effects in the dog. So many diseases have constipation as a symptom, that it would be quite impossible for us to consider it in regard to more than a very few of them. Indeed, I intend to limit myself to speaking of the condition that I had in view when I proposed constipation as a possible subject for discussion, namely, obstruction of the bowels by accumulation of fæces.

There is, perhaps, no condition in the whole category of the ailments of animals for which our services are more frequently demanded, nor is there one that requires more skill in exact diagnosis, more care and ability in the treatment, than obstruction of the bowels. The causes that induce it are as varied as the phenomena that accompany its evolution, and, although it is marked by a large percentage of fatalities, there is, perhaps, no malady which gives us so many opportunities of actually saving our patients by prompt and intelligent therapeutical interference. By a proper appreciation of the causes that beget it too, we are in a position to give advice as to the general treatment of animals that may, in many instances, prevent its occurrence. It is particularly in the horse and dog that we meet with obstruction from accumulation of excrementitious matter. It is sometimes seen in the ox, but is certainly rare. In the pig, however, it is fairly common. The site of the obstruction

is in the rectum in the dog and pig, while in the horse, although sometimes found in the rectum, its usual position is in the cæcum or colon.

Etiology.—The causes of fæcal obstruction in the horse may be associated with the food or with the animal itself. Ingestion of large quantities of dry indigestible food, notably straw, especially if given in the form of short chop, tends to dry up the secretions and become compacted. Dusty food has a like effect. Hay or straw gone mouldy, and food spoilt by having undergone chemical changes, are apt to give diarrhœa followed by constipation. Dry chaff (flights) in excessive quantity is certainly a likely cause, although my experience leads me to believe that chaff is not nearly so dangerous when given dry as when it has been soaked in water for a time. In some parts of the country, a scuttle of soaked chaff is tumbled in the manger and a measure of meal (maize, oats, wheat, peas, etc.) is mixed up with it. I have found this method of feeding a prolific source of "stoppage" cases. Sand or earth in the food or water frequently collect and obstruct the intestines. I have on several occasions seen collections of sand taken from the cæcum of horses dead from impaction. Apart from these localised collections, the presence of sand and earth tends to interfere with the secretions and fatigues the bowels, induces torpidity, and leads to obstruction. Very hard water is known to produce slow contraction of involuntary muscle, and is recognised as a cause of constipation in the human subject. In the horse, too, it gives constipation and colic, and should, therefore, be included here. I have often heard carmen state that they gave their horses water at a certain village where the water contained large quantities of lime, the animals were frequently attacked with colic afterwards.

Of all methods of feeding that can be incriminated as leading directly to fæcal accumulation, there is none so mischievous in this respect as the giving of cooked food. Steamed turnips and chaff used to be the usual evening meal for farm horses in a district where I lived, and impaction of the bowels was extremely common. Not only was it of frequent occurrence—I could have put up with that—but it was a very refractory form of impaction. Fatalities were frequent, and I had, therefore, often to urge farmers to stop the cooking and give the turnips raw, with results more favourable to the owners' pockets than to those of his veterinary attendant. In Edinburgh, the steaming of food for horses used to be the rule in all the big stables, and indigestion, colic, and impaction was, as a consequence, very rife among the horses in them. Since the abandonment of the practice of giving cooked food, these maladies have greatly decreased. These sodden, pasty messes that can be swallowed without chewing do not get properly insalivated, and are, in this respect, less digestible, and, besides, they form a voluminous food that can be quickly eaten, and, hence, produce over-distension of the stomach and bowels. It is well known that a moderate distension is an essential condition for proper secretion of the intestinal juices and for peristalsis. Therefore, besides being more difficult of digestion, these cooked foods, by their mere volume, are dangerous, since they tend to lessen peristalsis. Too concentrated foods also may lead to constipation by the smallness of their volume. It is found that rabbits fed on flour only die of fæcal obstruction, due to want of propulsion of the intestinal contents, owing, first, to the want of harsh indigestible residues that give the normal stimulus to the bowel, and secondly, to the want of proper distension of the bowel.

With regard to the causes of obstruction by fæcal accumulation which pertain to the animal itself, old age must be mentioned. In old animals the teeth often imperfectly perform their function on account of irregularities or actual disease. The food is on this account improperly masticated and does not get a sufficient macerating with saliva, it will therefore be digested with greater difficulty, and if other causes are in operation—deficiency of intestinal

secretions and a weakened muscular wall, giving diminished peristalsis—will tend to form slow moving masses which as they lose their moisture get felted together and obstruct. Catarrh of the intestines often accompanies influenza and many respiratory affections, and animals convalescent from these maladies have a weakened digestive tube and are prone to constipation and impaction. Aneurisms of the anterior mesenteric artery due to strongyles frequently determine impaction of fæces. Leaving the bowel the immature worms attain the wall of the artery, and by setting up inflammatory changes there a fusiform dilatation with immensely thickened walls results. In this pouch a firm laminated thrombus containing several strongyles may be found. The seat of election for these aneurisms is the anterior mesenteric artery, and further, it is the right division that is principally affected, and it is from this division that the cæcum gets all, and the colon a good deal of its blood supply. The thrombus contained in the aneurism never completely blocks the lumen of the vessel, and as it is washed by the blood stream bits of it are liable to be detached and are carried to the parts to which the arteries given off from the affected vessel are distributed, that is to say, to the cæcum and colon mainly. Here these particles of the thrombus plug the small arteries that supply the wall of the bowel with blood, and so shut off more or less completely larger or smaller areas from their necessary nutriment. In these anæmic areas peristalsis is diminished or is altogether in abeyance. There is great weakness or even paralysis of the bowel, and as a consequence a tendency to stasis of the contents and obstruction from fæcal accumulation. Of course, if, as often happens, large portions of bowel have their blood supply cut off by bigger or more numerous pieces getting washed off from the thrombus, acute symptoms are produced with hæmorrhagic infarctions and intense collateral congestion of, or hæmorrhage into the bowel, entailing violent colic and often rapid death. That is common enough, but I am now referring to what happens when, as a result of the arterial plugging, a passing anæmia of a portion of the bowel is produced, giving loss of function of the part involved. The fæces stagnate in the functionless area, ferment and give rise to gases (manifested by a tympanitic condition of the animal) tend to dessicate, and lead the way to obstruction.

There are many other factors that directly or indirectly tend to induce constipation and fæcal obstruction—pressure of tumours, large quantities of omental fat, repeated pregnancies distending and weakening the abdominal parietes are among these.

Symptoms of Obstruction by Fæces.

As a rule attention is first called to the animal by the manifestations of pain, these often appear just after or while taking a feed. The entry of food into the stomach sets up peristalsis, these movements, futile to dislodge the obstruction, give rise to pain. It is of a very mild type, in most cases, at first and there are long remissions. The head is held low, sniffing about on the ground, yawning is frequently observed, the tail is curled round to one side; pawing with the fore feet may be seen but it is done gently, and not in the violent and persistent and, to the attendant, distressing manner observed later on. If in a box the horse usually plants his hind-part in a corner and presses against the wall. If the recumbent attitude is assumed, the horse lies down gently and remains in the natural position, or stretches out full length, soon rising up, and perhaps, if his feed is unfinished, taking a few more mouthfuls. The initial symptoms may be more severe, the patient then looks round at the flank, scrapes back the bedding, lies at full length, turning round the head to gaze at the flank and pawing with the feet; groaning occasionally. The respirations are quickened, there may be patchy sweating sometimes, however the general surface of the body and the extremities are cold. The

pulse is usually not much disturbed at first except in cases where pain is severe. The mouth is dry and fœtid, and the tongue rough. The conjunctiva has often a yellowish tinge. Tympanites, a frequent accompaniment of obstructed bowels, is often absent at first. If the obstruction is in the cæcum borborygma may be absent altogether, otherwise some inconsiderable bowel sound may be heard. The urine is scanty and high coloured, and frequent abortive attempts are made to urinate; the horse may place himself in position to perform the act and maintain this attitude for some time. On making an examination of the rectum this bowel is found greatly dilated, the walls stretched and tense. This balooning of the rectum, as it is called, is said to always accompany obstruction of the colon. Its cause has not been very well defined; since it disappears under an anæsthetic it is probably of nervous origin. If any fæces can be reached a few dry compacted mucus covered pellets may be extracted. It may happen that the obstruction is far in the rectum, although this is rare. In these fortunate cases the mass may be disintegrated or may be seized and removed. Otherwise the hand can in most instances detect through the walls of the rectum the hardened fæces lying in the floating colon or in the pelvic flexure of the colon. As time goes on, and as the fæcal mass gets drier and gives more irritation and distension to the bowel and more completely obstructs its lumen, the symptoms get more aggravated. The pain is more severe, the intervals of calm are less frequent. The animal scrapes almost constantly and violently lies down and rolls, tries to get on his back, and if successful will remain in that position for a long time. He will sometimes sit up like a dog. I used to think that a fatal symptom but have known many recoveries in cases where it has been shown. Sweating may be profuse. The tongue is furred, and the breath dreadfully fœtid. The tympany is greatly accentuated and may threaten asphyxia, necessitating immediate puncture of the cæcum or colon, or both. Although these acute manifestations are frequently observed very many cases of impaction are of quite a chronic character, the affection running its course without the patient developing any but the mildest symptoms. In these cases the desire for food, and even water, is all but entirely lost. Some slight colic pains are occasionally present; the mouth is fœtid, great dulness or even stupor is observed. These last are signs that absorption of septic matter from the bowel is going on. Constipation is absolute.

How long may a horse remain in this condition and eventually recover? In the human subject, as is well-known, retention of fæces for long periods is consistent not merely with life but with health. A case is recorded of a lady whose bowels were evacuated only once in three months, four times a year. I have repeatedly seen horses recover in which constipation was absolute for a week, ten days, sixteen days in one instance. Principal Williams has had recoveries after twenty-one days, and Mr. Rutherford informs me that one horse under his care was thirty days without passing fæces, and then got better. In some of these long cases acute symptoms suddenly develop, and give a fatal ending. It may be that the veterinary surgeon or the owner lose patience, and a strong purge is administered producing rupture of the bowel, or rupture may have taken place without any purgative having been exhibited through ulceration of the intestines. Peritonitis may also result from ulceration without rupture. Again there are instances in which the patient, constipated for many days, shows great stupor and weakness, the mouth becomes excessively fœtid and the animal dies from septic intoxication, poisoned by the absorption of deleterious matters engendered in the putrid contents of its own bowels.

(*To be continued.*)

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

Half-yearly meeting held at the Globe Hotel, Plymouth, on Thursday, October 27th, 1898. Members present: Mr. F. T. Harvey (president), St. Columb; Mr. Jno. Dunstan (hon. sec.), St. Mellion; Professor Penberthy, Royal Veterinary College, London; Messrs. F. P. Collings, P. G. Bond, W. H. Bloye, Plymouth; Thos. Oliver, Truro; G. H. Elder, Taunton; E. W. Bovett, Bridgewater; A. H. Oliver, Devonport. Visitors: S. L. Stephens, Wadebridge; and Alb. Marshall, Plymouth.

Letters explaining absence were received from Messrs. R. P. Thomas, St. Austell; A. Maynard, Penzance; E. R. Smythe, Falmouth; F. Hobday, London; J. McFadyean, London; W. M. Scott, Bridgewater; Warne Raddall, Launceston; W. Ascott, Bideford; W. Roach, Exeter; C. H. Golledge, Sherborne; and Penhale, Holsworthy. A telegram from Mr. Heath, Exeter; and letters from Mr. A. T. Hutton, Barnstaple, and H. W. Davie, Crediton, were afterwards announced.

Minutes of two previous meetings were confirmed.

Victoria Benevolent Fund.

A letter was read from Mr. W. F. Barrett, secretary of the Victoria Benevolent Fund, forwarding a copy of the bye-laws of the society, and asking that the objects of the fund be brought before the association.

The PRESIDENT: At the last meeting, five guineas were voted to the fund. The annual subscription is half-a-guinea, and as the objects of the society are very good, I hope as many members as possible will join.

PRESIDENTIAL ADDRESS.

BY MR. F. T. HARVEY, F.R.C.V.S.

Gentlemen,—Allow me to thank you for the honour you have conferred upon me in electing me your president for the ensuing year. I esteem it a great privilege to occupy this position, and in endeavouring to carry out the duties pertaining thereto I must ask the members of the association for their assistance and cordial co-operation, both as to attendance at our meetings and in the introduction of subject matter. While the association has shown signs of increasing vigour during the past year we have to record the decease of two of our members. Since we last met in Exeter, the illness of Mr. Chase, of Tiverton, has had a fatal termination. Though he was undoubtedly very ill when we saw him in Exeter at our annual meeting in March last, he was as genial as ever and took part in the discussion. Mr. Chase was a past president of this association and a fairly regular attendant at our meetings. His decease early in life, after a long and painful illness, is a distinct loss to the association and to the profession in the West. He has a son, I believe, a student at the Royal Veterinary College. Mr. Michell, of St. Austell, another old member and fellow student of ours, has also died during the past week. Though not a very regular attendant at these meetings, he was always interested in the work of the association. I think we should express our sympathy with the families of the deceased gentlemen by resolution of this meeting.

As you are aware, our invitation to the National Veterinary Association was accepted, and the historic borough of Plymouth was selected as the place of meeting in 1899. The coming year will therefore prove an eventful one in the history of the association. For the first time in the history of the profession, a gathering of veterinary surgeons from all parts of the country will be held in the West, and I am sure no effort will be wanting on the part of the members of the profession in the Western counties to give our visitors

on that occasion a true and hearty welcome. And I would here offer our congratulations to the president-elect of the coming congress. I am sure no one is more fitted to carry out the duties of the office with both credit to himself and to the profession than our friend and colleague, Mr. Bloye, of Plymouth. It is to be hoped that the visit of the National Association will result in a good increase of members joining that association from the Western counties, as well as an increasing interest being taken in the welfare of our local society.

During the past year the 3rd Royal Commission on Tuberculosis was issued. The report, as you are aware, contained recommendations of a far-reaching character. These recommendations were considered of sufficient importance to justify the summoning of a conference in Dublin in August last, and held in connection with the Congress of the Royal Institute of Public Health, to consider the matter. In response to an invitation sent to this society by the Lord Mayor of Dublin, your secretary and myself were deputed to attend as delegates, and I have much pleasure in submitting a report of the conference, which was well attended.

Section C.—There were delegates from all parts of the country, and a large amount of work was got through in a short time; indeed, if one could find any fault at all it would lie in the direction of the time limit allowed by the president to the various speakers being so very short. The object largely of the conference, in addition to the discussion of the recommendations of the Royal Commission, was to safeguard the interests of veterinary surgeons in regard to inspection of meat, cowsheds, testing with tuberculin, etc., in any legislation that might in the future be passed by Parliament. The papers, copies of most of which I have placed on the table, were of a very practical character, and were read and discussed in a series, each dealing with a particular phase of the question, which added largely to their value. Certain valuable resolutions were also submitted, passed, and ordered to be forwarded to various authorities. These I have also placed on the table in order to save time in reading them.

In Section A—Preventive Medicine—the subject of tuberculosis occupied a very prominent position also. Dr. Joseph O'Carroll read a paper on "The Duties of the Community with regard to Tuberculosis." This paper was a very important one. Its general tenour was in complete accord with the ideas advanced in Section C. In this paper it was noted that the death record is not the full measure of the evil of tuberculosis. While the zymotic diseases either kill or cure, so to speak, within a few weeks, and most other diseases either kill in infancy or towards the close of life, tuberculosis claims its victims for the most part at the period which should be the prime of life, and after, perhaps, months or years of illness. The resolution carried in the section you will also find on the table.

In passing, I may say that in the company of Professor Dewar we paid a visit to the abattoirs. This building is spacious and fairly well constructed, but, I regret to say, is only used by about 45 per cent. of the butchers in Dublin.

It was not to be expected that, with a people so noted for their hospitality as the Irish, the festive side of the congress would be neglected. Garden parties, balls, excursions, concerts, and banquets were the order of the day. Everywhere the visitors met with a true Hibernian welcome. Sir Charles Cameron, as president of the congress, was indefatigable in looking after the delegates, while the Lord Lieutenant, Lord Mayor, and others ministered to their social requirements. We left favourably impressed with our friends across the Channel, and we can only advise you, when the time comes for the "National" to visit Dublin, that you all go and see for yourselves.

The resolutions referred to by the president and laid on the table were as follows:—

1.—That in the opinion of the conference tuberculosis should be added to the list of diseases scheduled under the Diseases of Animals Act of 1897, or, if that be not considered practical, it should be dealt with by a special Act.

2.—That in view of this Conference on Public Health, it is imperative that sounder meat and milk, free from tuberculosis taint, should be distributed, and the premises used for the housing of milk-producing cattle should be suitable; and it is essential that the duty of supervising these conditions should be carried out under the surveillance of qualified veterinary surgeons.

3.—That this conference is satisfied that tuberculosis cannot effectually be brought under control unless special provisions are made for periodical inspections by qualified medical officers and by persons engaged in the general supervision and care of food-producing animals.

4.—That this conference, recognising the utility of tuberculin as a most valuable aid in the diagnosis of tuberculosis, and, as its indiscriminate use would be fraught with danger and would be open to abuse, considers it advisable that its distribution should be officially controlled and its application or use should be placed in the hands of qualified veterinary surgeons only.

5.—In the opinion of the conference, it is at once expedient that, according to the invariable practice of the British Legislature, when an animal which showed no outward signs of tuberculosis during life prove after slaughter to be affected, and the carcase or any portion thereof is accordingly confiscated in the public interest, the owner should receive compensation to the extent of three-fourths of the live value of the meat so confiscated.

The president, proceeding, said: To what extent the herds of the West of England are affected with tuberculosis there are no statistics to prove, but it does not appear to be so common as in some parts of the country. Dairy cows are said to be tuberculous throughout the country to the extent of 20, 30, and even 40 per cent. in some places. In London, I believe, it is 50 per cent. But I should say that in Cornwall, where the cows are kept so much in the open, the number of animals affected must be considerably below these figures. It appears that there is more than one hundred times the risk of having a cow condemned for tuberculosis than there is of another animal. While the Commission indicated that the danger from tuberculosis meat had in the past been somewhat over-estimated, there could be no doubt that in the case of milk the danger was a very real one. In connection with this subject it is interesting to note that while tuberculosis in man has steadily declined in frequency during those periods of life, 15-45 years, when meat forms a very prominent article of food (the reduction in the age period 15-20 years being nearly 52 per cent.), there has been no corresponding diminution of tuberculous disease during the age period 0-5 years, at which milk forms the main article of diet. Dr. Tatham, in his evidence, said: "It must be remembered that tabes mesenterica, which more than any other represents tuberculosis in infancy, has signally failed to undergo any noteworthy diminution during the very period of sanitary progress which has been associated with such substantial diminution of death from tubercular affections at all ages in England and Wales, and that the result has coincided in point of time with a large increase in the consumption of milk." Believing that tuberculosis was not common in the dairies of the district in which I practise, I made some enquiries among medical men as to the prevalence among children of intestinal tuberculosis, and learnt that the disease was not at all common. The only legitimate conclusion I think we can come to from all these facts is that tuberculous milk means tuberculous children if the milk be given unboiled. Considering the large number of cases in which the udder is affected in advanced cases of tuberculosis, it is readily seen how necessary it is that the greatest care should be taken that no tuberculous animal should for long remain in a dairy. The law in regard

to the selling of milk is rather an anomaly, for while it is very strict that no water, however pure, should be added, it confers no powers on local authorities enabling them to prevent the sale of milk from tuberculous cows, even when the disease has manifestly attacked the udder. That the milk sent into the large towns, such as Liverpool, Manchester, etc., frequently contains tubercle bacilli is certain, so much so that in the various institutions controlled by the Manchester Corporation, the latter demand that the milk shall be obtained from those farms on which the cows have withstood the tuberculin test. This enlightened policy on the part of Manchester could well be imitated by dairymen in other towns, and especially those supplying our summer health resorts. Especially should this be the case where cows are advertised as being kept solely for the supply of milk for the nursery, as otherwise there can be no guarantee that the very cows selected by the dairyman may not be badly affected. There can, I think, be no doubt that there is an ever-increasing number of those who demand that the milk they consume shall be obtained from cows free from tuberculosis. Adverting to the question of tuberculosis from the breeders' and agriculturists' point of view, the matter has been very clearly put by Mr. Cooke French, one of the Royal Commission. He says: "The importance of the subject to the British farmer arises (1) from the direct loss by death and by seizure of carcases after slaughter, for though in these cases the loss may in the first instance fall upon the butcher, it is clear that it must ultimately in some form or other go to the debit of the farmer; (2) in the liability he is under to have his dairy produce unfit for food; (3) in the disadvantage under which he is placed as compared with foreign competition, many butchers having ceased to buy home-grown meat at all, and again, in the depreciation abroad of English-bred stock. While the Commission was actually sitting there appeared a letter in *The Times* from the Secretary of the Shorthorn Society of France relating how two valuable shorthorn bulls, which had been purchased in England at a high figure, had been detained on the frontier till they had been tested with tuberculin, and both reacting were forthwith slaughtered. The secretary pointed out "how impossible it would be for French buyers in future to attend English sales unless they were given a guarantee as to reaction." The remedy is with dairymen and agriculturists if they like to use it. Formerly the difficulties of diagnosis were urged as the one great obstacle in dealing with the disease. Science has rendered this plea no longer tenable. Any owner of stock can now, if he chooses, place his finger on any animal in his herd affected with tuberculosis and can quietly rid his stock of the scourge. And in the words of Professor McFadyean: "It is the duty of veterinary surgeons to make this known, and to persuade the owners of tuberculous herds that it will pay them better to attack the disease now, than to wait in the expectation that the State will step in and buy their affected animals."

Alluding for a minute to the subject of avian tuberculosis, it is interesting to note Nocard has recently definitely established the relationship between tuberculosis of man and that of birds, human and avian tubercle being only two different varieties of the same disease. The eating of tuberculous poultry is therefore not without danger, and, conversely, people with phthisis infect poultry yards. During the past year I have seen three farms on which the poultry have died in large numbers from tuberculosis, and I think that the disease is much commoner than is generally supposed.

Passing on to the field of bacteriology, the president continued: The year 1898 will be memorable for the announcement by the French veterinarian, Nocard, of the discovery of the microbe of pleuro-pneumonia of cattle. By a series of novel and brilliant investigations, he has succeeded in cultivating and isolating an organism which the ablest investigators had hitherto failed to find. The method of cultivation consisted, as you are doubtless aware, in

placing lung serum in collodion capsules and then retaining the latter in the peritoneal cavity of an animal (rabbit). In this way the microbe was protected from the wandering cells or phagocytes, while fluid could pass into and out of the capsule. Such methods of cultivation will perhaps allow scientists to obtain pure cultivations of organisms from such diseases as small pox, cattle plague, foot-and-mouth disease, etc., the germs of which we are as yet unacquainted with. The year also witnesses an increasing attention being paid to the effects on the tissues of the products of bacterial life. Disease-producing organisms produce in their growth poisons which react on the body in the same way as poisons artificially administered, and this view is by many being still further applied to the body itself, as producing under certain conditions poisonous substances called ptomaines, whose presence in the blood may occasionally result in disease and death. As yet we have much to learn regarding the effects of various substances, some highly poisonous, found in the intestinal canal during digestion of improper food, or in certain structural alterations of the bowel. The often rapid course of certain fatal cases, especially in the horse, and in which on *post-mortem* very little anatomical change may be found, can only, I think, lead one to infer that some toxic substance has gained entrance to the blood and produced fatal results. There is here a large field for the clinician, working in conjunction with the histo-chemist. The best means of thoroughly disinfecting the intestinal canal of our various patients is a subject of very great therapeutic importance, for the time-honoured purgative is not always safe to fall back upon, as well as being somewhat a slow process. Peritonitis is now slowly regarded as being due to infection from without, and the field of the body, so to speak, on which the common cold, or chill, is regarded as capable of actually causing inflammation, apart from the action of organisms or poisonous products of some kind or other, is being gradually narrowed. In some cases, instead of the phenomena of inflammation resulting, as in the case of mammatis and lymphangitis, we see the toxin causing a rapid, and if not checked often fatal, destruction of the red blood cells, as in hæmaglobinuria of cattle (black water), or again we see the results chiefly manifested in the muscular system as in azoturia in horses. One might enumerate other instances in which it is highly probable a toxin of some kind or other plays a very important *rôle*, but these instances will perhaps serve to indicate the tendencies of present-day pathology.

The HON. SECRETARY said: The Dublin congress was very successful, and especially so as regards tuberculosis, which formed the subject for discussion in two other sections besides the veterinary conference. In the Section of Preventive Medicine and Vital Statistics it was stated that infected milk is probably the cause of more than 90 per cent. of the fatal diseases of children under three years, whilst the percentage of deaths from tuberculosis in the British Isles from 1880–94 was between 13 and 14 per cent. (J. D. Moore, 1896). These figures need no comment. The congress has done a deal of good up to now by disseminating knowledge of the disease and of the reliability of tuberculin as an aid to diagnosis, amongst the general public; and the veterinary section was well represented by delegates from nearly all the veterinary associations and all the colleges and members from all corners of the British Isles. The following resolution bearing on the subject was passed by the Vital Statistics and Preventive Medicine Section under the presidency of Dr. J. W. Grimshaw:—

> That from a consideration of the serious mortality from tubercular disease and the known connection of tuberculosis with a bacillus which can by the adoption of proper means be destroyed, this section is unanimously of opinion that immediate steps should be taken to consider the question whether tuberculosis should be added to the list of notifiable diseases, and what other effective steps should be taken with a view of reducing the mortality from this disease.

The veterinary profession is just waking up to the possibilities which lie before it in the domain of public health, and not only is the veterinary profession waking up, but medical officers and legislators are also getting to see the necessity of employing veterinary surgeons as public health officers, as exemplified by the resolution passed by the recent Congress of the Sanitary Institute at Birmingham, on the motion of Dr. Niven, Medical Officer of Health for Manchester, advocating the creation of a veterinary health department, and, in the second instance, by the passing of the recent Public Health (Scotland) Bill. These are two steps. I consider it the bounden duty of the veterinary profession to itself collectively, to its members individually, and to the community at large, to take part in every public health and sanitary congress in order to ourselves keep to the front the claims of the profession to the duties of public health officers, on the grounds of scientific and practical ability in the diagnosis and control of all animal diseases transmissible to man. I further consider it the duty of every veterinary surgeon, in private conversation with his clients, or in conversation generally, to be alive to the interests of the profession by disseminating as much knowledge of tuberculosis and its communicability to man as he possibly can, and to endeavour to impress on his clients at every opportunity the advisability of weeding out their tuberculous stock by means of tuberculin, which we can now conscientiously regard as being a thoroughly reliable diagnostic agent. This is very important, as the use of tuberculin is now almost solely in the hands of veterinary surgeons, and it rests with us to educate the public up to it. When there is manifested a general desire to make use of the test, we have it on the authority of Mr. Long, Pres. B.A., that he will willingly approach the Government with a scheme to secure its universal adoption.

Mr. BLOYE: I should like to move a vote of thanks to our delegates for their conduct at the congress, and for the very able report which they have given to us. One almost wishes that report was open to discussion. It leaves room for so much which might be said with regard to the conduct of the Board of Agriculture and its President. He has promised that when he gets sufficient evidence he will advise the Board to adopt the tuberculin test. He wants such an enormous amount of evidence. He is such a sceptic—(The PRESIDENT: It is those behind him.)—whether from conviction or those behind him remains to be seen. As we must leave this point behind now, I am sure you will be willing to accord your thanks to these gentlemen for acting so well on your behalf in Ireland. This point of tuberculosis cannot be driven into the public too much. Our position is of very great importance at present. The medical profession has practically adopted the veterinary evidence in regard to the prevention of the spread of tubercle. Our functions in regard to the suppression of contaminated dairies is a very strong one, and the public should know that nobody is so fitting to prevent the dissemination of tuberculous milk, by the inspection of cows and dairies, as is the veterinary surgeon. My impression is that if we are able to control the selling of affected milk we shall be performing one great action, and be taking one big step in the prevention of tubercle.

Professor PENBERTHY: It is a very great pleasure to me to second a vote of thanks to your officers, and I had some special opportunities of judging how they fulfilled your desires. The purely professional part of the congress, I know, claimed their individual attention, and I am extremely gratified to hear such a concrete report as we have had from both the president and the secretary. I think that the making public of as much of this report as can be made public will help to give effect to the desire which you have so forcibly expressed, and which is so strongly expressed by the profession. With regard to the Board of Agriculture, we must consider the difficulties of that body. We have a function as members of the community, and that

function is to educate the public at every opportunity. When it is appreciated that a man can buy a pennyworth of milk at a place where he can be sure of no tuberculosis he will demand it. That would sound an electioneering note that would strike every cottager with a child. I should like to see an Act passed that would prevent the selling of milk from tuberculous animals. I see many difficulties—the question of compensation, for instance. I agree with what your president has said—that the existence of tuberculosis in bovines is very much exaggerated. I don't think there is so much in bovines as is generally supposed. A rather extensive application of the tuberculin test throughout the country has shown that it is not quite so prevalent as was generally supposed. We are prepared with the means of telling the stockowner and telling the public whether they are safe in drinking the milk or eating the flesh of a certain animal. We can do no more. We shall be doing a great public service, as well as enhancing our own work, if the reports are published as much as possible throughout the West of England. I am glad to have had an opportunity of seconding the vote of thanks. I think this was not the first public function at which the association had been represented. I think Mr. Elder represented the association at the International Congress in London.—The vote of thanks was carried.

THE NATIONAL VETERINARY ASSOCIATION.

Traumatic Diseases of the Horse's Foot.

BY W. WILLIAMS, F.R.C.V.S., F.R.S.E.

(Continued from page 483.)

Mr. W. Hunting: Probably there is no question in veterinary surgery of more importance and more interest to us than this one which Professor Williams has treated so well. Whatever kind of traumatic injury we have, I take it the two things we have to treat are the pain inflicted and the tendency to suppuration. It seems to me that without going into the various causes of these two conditions there is a very big subject merely in the consideration of the treatment of suppuration within the hoof. Whatever it be, whether corn or nail, that establishes suppuration in the foot, it is our duty to be guided by a few general principles. First, we should relieve the pain. Next, you must come to a direct conclusion whether there is any suppuration there or not, and you can only estimate that probability by the amount of lameness and pain shown by the horse. Take a corn, for instance. You get bruise and lameness. There are stages in that injury in which it is not difficult to say whether you have a bruise ending in a little effusion from the sensitive tissue, or whether you have really got pus formed. I take it if you have pus formed you must let it out. If you have not, it is quite as essential that you should not cut through the hoof. One of the great difficulties with all foot cases is the formation of suppuration. One of the worst is something more than that, viz., septic infection, and if there is no complete excision of the wall, if the continuity of the hoof is not destroyed, there is very little chance of you having this septic infection save when the casual organism has entered by a wound. There is a great chance of it if you once cut through the horn. Therefore it is most important for us to judge as well as we can as to the advisability of cutting through the horn. I agree with Mr. Rutherford that when once a man has determined that he has suppuration in the hoof, the sooner it is let out the better. I say more—that I agree with Mr. Rutherford in the somewhat bold surgery he proposes to prevent destruction of tissue. In a case, say, in which a horse is pricked by a couple of nails, and suppuration is formed, you have nearly always a

very rapid destruction of the sensitive laminæ. I am not bacteriologist enough to say how much damage is done by the bacteria there, but I think I may say that a great deal of the change is due simply to pressure from the swollen tissues, and you find your laminæ black and necrosed. Professor Williams and Mr. Rutherford are at variance on a point which I think is of considerable importance. Mr. Rutherford says that when he strips the wall he does it with the horse standing. Professor Williams says—and I agree with him—"if the lameness and fever become more rapidly pronounced, say in from 12 to 24 hours, the horse may be cast, chloroformed, and the wall covering the seat of the injury as well as the necrosed tissues, both soft and hard, removed." I believe we might save ourselves a very great deal of trouble, and the horse a very great deal of suffering, if we would follow this advice. It only wants doing once and doing thoroughly. Everybody knows the difficulty of removing the horn from a horse which has a very painful diseased foot; you cannot do it properly. You take it out of yourself nearly as much as the horse, whereas if you put him down you can save him the whole of the suffering which must follow the use of the rasp and the knife on the sensitive foot, and you can do your work with exactness. I notice that Professor Williams, throughout the whole of his paper, insists upon the absolute necessity of the strictest asepticism. I take that to be the strongest point in the paper, and it is one which I think no writer has yet sufficiently insisted upon in relation to foot cases. Nearly all those cases in which you have pus break out in three or four different places, in which it enters the thecas, spreads all over the coronary and frog cushions—nearly all those cases I believe are secondary infections. You have a corn or a nail causing suppuration within the hoof, and the first appearance of it, if it is not let out at the bottom, is the breaking out between hair and hoof, *i.e.*, outside of and below the coronary band. All your secondary infections break out above and within the coronary band. That shows that it is not an absolute continuity of process. The matter which runs up the laminæ and breaks out between hair and hoof does not follow the same track, is not due to the same original injury, as the suppuration which breaks out above the coronary band. I take it that in every case there must have formed a secondary abscess, and that that secondary abscess has cut off its communication with the primary channel of the pus and broken out higher up because it is deeper situated.

Mr. F. W. Wragg: In giving an opinion as to the frequency with which pricks occur in the horse's foot now as compared with some years ago, I quite agree with my friend, Mr. Faulkner. I do not believe that we have so much trouble from horses being pricked now as we did. I put that down in a great measure to the much better nails which are used—the bright nails. With regard to corns, in my practice I have not more corns now than I had many years ago. That being so, I think it behoves us to try as much as possible to find out the causes of corns, and I am at direct issue with my friend, Mr. Hunting, as to the shoe being invariably the cause of corn. I knew of two horses—one was my own, and I drove it for four months; the other, I think, was several months without shoes. My own horse I can speak positively about, because it had no corns until I drove it without shoes, but during that time it developed a corn. As to the other animal, I cannot positively say whether it had a corn to begin with or not, but at any rate it had a very bad corn during the time it had no shoe on. Evidently in these cases the shoe did not cause the corn. Then Professor Williams advocates very rightly the use of a three-quarter shoe, and that very often is a preventive of corns, but it is not infallible. I have one or two firms where we have great trouble with corns, and I remember it with a horse which was bought only this year. When he came I adopted the principle of shoeing every horse with three-quarter shoes

to try and prevent these corns. This horse was shod with three-quarter shoes. I examined him very carefully before he was shod, and he had no corn, but with the three-quarter shoe he developed a corn. That proves that it is not always preventive. No doubt the great cause of corns in the cases I have stated, where the shoe does not touch, was concussion. No doubt in some cases, or, perhaps, the majority of cases, bad shoeing does cause corns, but when I am called in to attend horses with corns, and my client turns round and says, "Oh, it is bad shoeing," I invariably quote these cases. Why does the shoeing cause corns? One very frequent cause of the shoe causing a corn is when the inside heel of the foot is left stronger or longer than the outside heel, thereby giving the shoe an uneven bearing. Another reason why we have more corns than we did in former years is because so much has been written about not touching the feet. The smiths now are afraid to touch the feet at all—you see this more particularly at shoeing competitions. Do not let it be supposed that I am advocating going back to the old system of cutting the soles out and taking away the frogs. I never allow the soles to be cut if I can possibly help it. With regard to quittor, I think the first form of quittor we have to treat is that which occurs with suppurating corns. Then there is another cause of lameness which occurs, due to congestion of the laminæ of the foot. That very often causes lameness, and it recurs. Sometimes that congestion assumes a chronic character. I am very much pleased with the capital paper of Professor Williams, and I should like to bear my testimony to it.

Mr. HUNTING, Senr.: I did not intend to speak to-day on shoeing, because I do not know very much about it, but it so happens that scarcely anyone has said a word as to a cause of corns other than shoeing. I hold that shoeing has not so much to do with the production of corns as to the concussion upon the hard roads. For the last forty-eight years I have had from six to eight thousand animals under my supervision, and I certainly did not have half-a-dozen cases a year of corn on the feet. These are underground animals, walking on the soft waggon ways of the pits. That, I think, is entirely owing to the fact that these animals are going on a softer material than the hard roads above ground. Those of you who have colliery practices know very well how extremely rare it is to get anything like a good horse shoer down the pits. There is no shoeing so badly done as on underground animals, and there is no place where there are so few corns or other lamenesses the result of shoeing. I take it that this is owing to the fact that these animals are going on soft roads rather than on hard roads.

Mr. S. LOCKE: I should like to add my meed of praise to the professor for the able manner in which he has worked up this subject. The way in which he has dealt with it is a treat to all practitioners, and there is no doubt that there is a great deal to learn even at the present day. With regard to corns, I cannot quite coincide with Mr. Hunting with regard to the cause. There is no doubt, to a certain extent, concussion on the hard roads when a horse is not shod as he ought to be. To my mind the existence of corn has a great deal to do with the way in which the horses are shod. I am connected with an establishment at Manchester where we have some 5,000 horses, and those horses with a modification of the Charlier, that is, a short shoe. There are not twenty cases of corn there. That seems to show that corns are due to shoes resting on the inside of the heel. These horses that I speak of, which are shod with three-quarter shoes, have just as much concussion, in fact, more so than the generality of horses, because they are always on stones day by day—they are never off the stones, and yet, as I say, there are not twenty cases coming under treatment from corns.

Mr. ROBERTS (Tunbridge Wells): I should like to say that for many years

I have treated corns, as to cure and prevention, in the way laid down by Prof. Williams, using the three-quarter shoe, and I have found it the most effectual of all ways that I have ever practised or seen practised. So much so that when I went into the district where I now am it was looked upon as a very odd and strange method of treatment, but now nearly everyone imitates that way. I think it has a very great tendency to strengthen the quarter of the foot, and in every way prevent a repetition of corns by preventing bruises. The quarter, instead of being thin and shallow, becomes deeper and deeper and more extended.

Mr. H. OLVER: I had no intention of discussing this excellent paper of Prof. Williams', but I must make one or two remarks. To the large majority of us, perhaps, the most interesting feature of all the paper was laminitis, which is mentioned in the last part. Prof. Williams points out there—although this does not strictly come under the heading of traumatic injuries to the foot—very plainly, and in my experience most correctly, that this laminitis, proceeding from septic irritation of mucous membrane, is much better treated in these days than it was in the past, by using antiseptics directly, as far as possible. I entirely agree with him. As so much has been said about corns and concussion I shall for my own part say that living in a hunting practice two-thirds of the corns I see are in hunters. Mr. Hunting has said that it does not occur in pit ponies because they do not get concussion; but hunters in the west country do not get concussion either. I take it it is a bruise of the sensitive foot from whatever it arises.

Prof. MACQUEEN: If time will permit, I should like to make a remark or two with regard to Professor Williams' paper. Unlike most of those who have preceded me, I cannot say that I am much overburdened with admiration for the paper which has been given. With regard to the diagnosis of lameness, there is a tradition associated with old Professor Dick's name, that he was able to diagnose lameness in the most remarkable manner, and somehow that tradition has descended even to the present time. There are those who believe now that Professor Dick could not only diagnose the lame leg but the seat of lameness, although he was situated some yards away from the horse, and some yards above the level of the horse. Now if that was not genius, what would you call it? I have never believed that tradition. I rather incline to the view expressed by my friend Mr. Rutherford, that there are not many genuises in existence as regards diagnosis of lameness. I believe that the genius fails to diagnose lameness in nine cases out of ten because he does not take the trouble. At the present time the profession is filled with men who are capable of diagnosing lameness if they will only give the same amount of time and attention to it that they give occasionally to other things. Lameness is nearly always diagnosable, but I do not believe in what is called lightning diagnosis. There are many cases where any practitioner, old or young, must see the patients, not once, but several times, before he can form a correct opinion. With regard to the frequency of pricks in shoeing, I join my friend Mr. Wragg in saying that they are not nearly so common as they used to be. With him I attribute that to the improved condition of the nails we use. As to the cause of corns, I have not been able to satisfy myself that corns are always due to the shoe. Very often I have been able to satisfy myself that a corn is attributable to the defective treatment of the foot prior to the putting on of the shoe, and when the heels are unequal in height. With regard to the three-quarter shoe, I know there are many practitioners who favour it. I do not. It is a very useful temporary shoe, but more than a useful temporary shoe I cannot hold it to be. What I have seen occur in cases where a three-quarter shoe has been used for a considerable time is the mere transfer of the seat of injury from the ordinary corn place to a place a little further forward in the foot. The extremity of the three-quarter shoe injures the sole in the

very same way that the sole is injured by the ordinary shoe. With regard to quittor, I believe the day is rapidly coming, if it has not already come, when quittor will be regarded as a special disease. I look upon quittor as simply an abscess of the horse's foot. It is caused in a variety of ways, that is, the initial damage arises in various ways. It is simply due to accumulation of pus in the foot. The complications that arise from quittor are also various—necrosis of the os pedis, necrosis of the laminæ, necrosis of the lateral cartilage. Quittor should be treated upon modern up-to-date lines. Treat quittor as you would treat an abscess elsewhere, and do not consider too much the kind of tissue that you are dealing with. You open the abscess in what you consider the best possible manner, by which I mean the drainage should be efficient; you get rid of all necrosed or diseased tissue, whether cartilage or laminæ, and when you have done that the quittor should give you no more trouble than any other properly treated fistula. The quittor that lasts long and gives trouble is the quittor which has been neglected, where temporising methods have been adopted, and where someone introduces so much tincture of iodine, or some other injection, every morning through a little hole. That is what I call tinkering with quittor. With regard to the puncture of the foot by gathered nails, Prof. Williams has entered upon what may be considered the modern surgery of the foot. With regard to the treatment or possible treatment of certain cases of gathered nail, he alluded to necrosis of the perforans tendon, and described two operations—one he called the complete operation, and a modification known as the incomplete operation, but he does not say that he has himself performed these operations. Probably there is not a man in this room who has ever performed this operation for the relief or cure of a gathered nail. If there is I shall be glad to make his acquaintance. Furthermore, I should like to know what his results were—whether he managed to restore that horse to workable usefulness. The operation originated in the brain of some scientific nobody on the Continent. If you believe everything that comes from the Continent, through a translation, you will have a very busy time.

Prof. WILLIAMS, in reply, said: I quite agree with Mr. Rutherford that no man is perfect in the diagnosis of lameness. I know I make many mistakes myself. There is no doubt whatever, particularly in hind leg lameness, that there is room for a great difference of opinion. Men of experience do, as a rule agree as to which leg the horse is lame in, but I have seen exceptions to that. Mr. Rutherford says there is no gift in the diagnosis of lamenes. When Mr. Rutherford has had to deal with students as long as I have had he will find out that there is a great difference, that some men, as described by my friend Mr. Wolstenholme, have a genius for discovering lameness, while in others the gift only comes after a prolonged period of study. It is exceedingly hard work, indeed, and to a teacher it seems sometimes almost an impossible one, to drum the matter into students. In the diagnosis even of the leg the cross lameness comes up most frequently, and when the horse is lame in the near fore a great many will continue after a long period of study, and after they have gone into the world to practice, in saying that the horse is lame in the off hind. Mr. Rutherford says that in chronic lameness he always removes the shoe. I say that where the lameness has gradually developed the urgency of removing a shoe is a matter of opinion. I do not say it should not be removed. The veterinary surgeon can remove it or not as the case may be. It may be necessary or it may be unnecessary, I leave it, of course, to the common sense and the practical knowledge of each individual practitioner. But in all cases of sudden lameness I distinctly say that the shoe should be removed, although there is evidence of a cause that might be quite sufficient to induce all the lameness.

I did think that the discussion would have turned on the more scientific

aspect of the paper, and I rather traversed the original instruction of the committee by introducing this question of laminitis. I thought this really would be the point that would be discussed at a meeting of this kind, because, to some extent, it contained something new. However, the discussion, with the exception of my friend Mr. Olver, has scarcely touched upon that point. It seems to me that corns have been a chief feature of the discussion, and Mr. Hunting said that I ascribed corns to a variety of causes. Others said it was due to concussion, and that the shoe had nothing at all to do with it. All I say is this about the cause of corns. I say nothing about "conformation" being a predisposing cause of corn, as I see them in all kinds of horses required for speedy work, particularly on hard roads. Cart horses seldom have corns. We must, therefore, conclude that the concussive shock is the general and most frequent cause. Hunters have corns, but they seldom cause lameness so long as they are worked on soft ground. Of necessity the hunter's fore shoes are shorter than those of other horses, and are apt to press upon the sole at the seat of corn. I would suggest that all hunters should be shod with three-quarter fore shoes, thus removing the pressure from the seat of corn and diminishing the chances of the shoes being torn off. I think that is the pith of the whole matter. It is due, perhaps, not to direct pressure but to the concussion, and the shoe is undoubtedly the most frequent condition which we find leading to the evolution, if I may so term it, of a corn. Mr. Rutherford says that pus of a black colour is generally found in those chronic cases where the horse had not, perhaps, developed any lameness for a month. In my own experience, pus is always dark coloured in a pricked foot when it is first opened. I remember a case which was tried in Liverpool. A horse was pricked, and some people said it was white matter which came out. The late Mr. Lawson and Mr. Peter Taylor were on the other side, and they said the first discharge of pus from a foot after a puncture of any kind was of a dark colour. I was surprised to hear Mr. Rutherford say that the pus was of a white colour sometimes. Certainly this is against my experience. Then he says he does not cast the horse for "stripping." I think he would perform the operation very much better if he did cast the horse. I think the horse should be chloroformed. I did not enter into all these little matters for men of your experience and knowledge of the world about the application of the tourniquet, but usually every man who is going to expose a vascular structure like the sensitive laminæ will not think of performing that operation without applying the proper instrument, a tourniquet, and so on. Therefore I did not enter into these little details. A horse, in my opinion, should be cast, and the operation will be done much more effectively. The foot is exceedingly sensitive in these cases, and even a mere touch causes a horse exquisite agony, and therefore he will fight against you, and, as one gentleman said, "he will take it out of you as well as out of himself." Mr. Rutherford said that as soon as the pus appeared at the coronet stripping should be done. I differ in a great many cases. If the suppuration and lameness is excessive after the appearance of pus at the coronet then I say you must strip, you must expose the whole thing, but you often find (and in my own experience I have found cases which have manifested no lameness at all until the pus has appeared at the coronet) they have been lame for a day or two. I have known cases where pus has not appeared for a month or five weeks after the last shoeing, and then has appeared at the coronet without there being any lameness. In cases of this kind it will be, I think, a very undesirable thing, and very expensive to the owner of the horse, and very cruel to the horse himself, to strip the hoof simply because there is suppuration at the coronet. Therefore I do not advocate the stripping of the foot unless, of course, necessity imperatively calls for it to be done. With regard to hot and cold water, there is one thing which my friend, Mr. Rutherford—and he was supported by my friend, Mr. Thompson—says he

does, and that is, when there is a necrosed tissue he applies a cold application. Now that is against all theory and against all science. The processes which are involved, or which are set up in the removal of dead tissue, are retarded by the applicatiou of cold and promoted by the application of heat. There is no doubt that those changes by which necrosed tissue is removed from the body are encouraged by the application of warm remedies and certainly delayed by the application of cold, and therefore until sloughing has taken place, until the dead tissue has been cast off, I maintain that warm applications are much better than cold ones. Afterwards, when this process has taken place, it is immaterial whether you apply cold or warm. Further than that, I believe that warm applications are much more soothing in painful diseases than cold applications. Mr. Roberts agrees with me about the three-quarter shoes; other gentlemen do not. I can only say that the three-quarter shoes are the very best shoes for corns. There is an exception here. Horses sometimes will have corns with three-quarter shoes, but they are exceptions to the rule. If the paper had been on "Some Diseases of the Foot and their Causes" one would have had a much larger field. The limitation confined me to a few subjects, and it was only by consent of your president I ventured to introduce the question of laminitis, which I am sorry you have not discussed more fully. Ever since I have taken the view of laminitis arising from or subsequent to another disease, and looked upon it as a septic condition through absorption from the diseased mucous membrane, I have been exceedingly successful in the treatment, much more so and in a far less period of time than under the old treatment. Gentlemen, I thank you exceedingly for your patient hearing, and I thank you for the very kind manner in which you have received my paper.

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 458.)

Inspection of meat is, to some extent, now provided for by Public Health Acts. If local authorities used the powers they possessed more fully, very little further legislation would be necessary to protect human beings from the dangers due to tuberculous meat. The statistics derived from public abattoirs are of very little value as evidence of the prevalence of tuberculosis among cattle. The worst cases of disease never go into public abattoirs, but they do go into shops for the food of human beings. So long as private slaughterhouses exist, so long will diseased meat be sold and consumed. The only thorough check upon this traffic is to make it an offence to move a tuberculous animal or carcase. This could be attained if tuberculosis were scheduled in the Animals Diseases Act. It could not be attained by any system of inspection of meat until public abattoirs are erected in all large towns, and every butcher's shop examined regularly by an expert.

Inspection of Milk—This is now provided for by regulations giving powers to local authorities. Under some local Acts milk containing or suspected of containing injurious materials or substances can be seized. By far the most constant, dangerous pollution of milk is by the tubercle bacillus. No law protects the public against this, although the Cowsheds and Milkshops Order might easily be made to do so. This Order forbids the sale of milk from cows suffering from foot-and-mouth disease and pleuro-pneumonia because they are "diseases" scheduled in the Animals Diseases Act. Were tuberculosis scheduled—even for the slightest purpose—hardly any more

powers for the protection of the public against tuberculous milk would be necessary.

Inspection of Milk Cows.—At present some inspection, medical and veterinary, is provided, but if all the cows in the shed were found tuberculous no authorities, save those in Glasgow, could stop the sale of milk or order the isolation of the cows. Inspection of the cows by a veterinary surgeon and the detection of diseased animals would be useless without powers for their removal. Tuberculous udders are a gradual development, and infection of milk is possible from an amount of disease which may not be easily detected. To determine the real nature of a diseased udder might require the use of tuberculin to aid diagnosis and power to employ the agent should be given.

Seizure of cows, for the protection of the public seems to me unjust unless compensation is given the cowkeeper. A cowkeeper is constantly replenishing his stock, and he cannot avoid buying tuberculous animals. "Owing to the complicated nature of the cattle trade and the repeated sales that often take place between the time when the animal leaves the farm and arrives" at the cowshed, it is well-nigh impossible to place the blame on the right shoulders. Someone ought to be responsible, and I agree with Professor McFadyean that "If there is any loss it ought to fall on the breeder or feeder who owned the animal at the time when it contracted the disease."

Notification of Udder Disease.—The Royal Commission recognise the frightful danger of tuberculous udders in a cowshed, and suggest that compulsory notification of such conditions should be enforced. Why enforce notification of disease made evident by one symptom and leave all other cases of that disease outside of such a precautionary regulation? Surely notification of tuberculosis as a whole is as necessary and more logical than the limited notification of disease when it appears in the udder. A cow may be a confirmed "waster" suffering from generalised tuberculosis, and yet the udder remain unaffected. Is there no danger from such a cow in a place where milk is produced?

State-aided use of Tuberculin.—This recommendation has been spoken of as a "voluntary effort." It is nothing of the sort, because it would only come into use with strict conditions as to isolation and separation of the animals tested. On some places where space is plentiful this course is easily pursued. On some it is quite impossible unless the word "separation" is construed very freely and liberally. If tuberculin is the good thing we all acknowledge, why confine its use to those who ask for it? Why not empower the veterinary inspector to employ it whenever it is essential to his forming a positive diagnosis? It can do no harm, it may help to save loss to a stock-owner, and health to human beings.

The whole of the recommendations of the Royal Commission are directed to the protection of human life. To carry them out very considerable trouble and loss will be inflicted upon butchers and cowkeepers. These two classes have expressed no desire for legislation, but the public good overrides their desires, and the legislature will probably consider a sufficient case is made out by the Commission for interference. The butcher and cowkeeper buy stock for a specific purpose, and have no opportunity, under the ordinary usages of trade, for protecting themselves against the disease they are made to suffer for. The only person who has full opportunity to know the condition of the animal he sells is the breeder and feeder. On these men's premises the animals become diseased, and even if all the recommendations of the Commission are given the force of law, no regulations will strike at the source and origin of disease, and no penalties will fall upon the person most to blame—the person who can, if he will, know the state of the animal he sells.

The recommendations of the Commission are clearly insufficient to protect

human beings against the transmission of tuberculosis from animals. By the time the most expert and most assiduous inspector has detected disease in the cow's udder, milk may have been polluted, sold, and consumed.

This touch-and-go sort of protection—sometimes effective, sometimes just too late—is to be carried out at great trouble and expense, whilst the logical and common-sense method of tackling disease at its source is left untouched.

Such folly surely will never be approved by Parliament, and, to assure its not gaining approval, the veterinary profession should do its utmost to speak the truth.

The only way to protect the public is to control the disease among the animals. Whilst inspection of meat, and milk, and cowsheds, and slaughter-houses is being practised, regulations must be enforced against the existence of disease and its constant development on the premises of breeders and feeders.

Tuberculosis should be scheduled in the Animals' Disease Act for the purposes of:—

Compulsory notification.

Isolation of suspected animals.

Slaughter of clinically diseased.

Regulation of movement of suspected and diseased.

The first effect of this action would be to enable medical officers to stop the sale of milk from tuberculous cows. It would also provide for the seizure of animals with tuberculous udders. It would gradually suppress the disease throughout our herds. It would be unjust to no one. The horse-owner has to submit to regulations on similar lines against glanders. What is applicable to diseased horses worth £50 each is surely not unjust when applied to cows worth £20.

I have attempted to show that the recommendations of the Royal Commission are insufficient for their one object, and that the double object of protecting both man and animals against tuberculosis can be attained with very little more action than that advised by the Commission. The Commission's recommendations partially control tuberculosis in the hands of cowkeepers and butchers. They leave the disease untouched in the herds of breeders and feeders. They protect the public at the expense of two classes, and give these classes no help or assistance against the persons who keep the disease alive, and who evade by sale both loss and responsibility. I refrain from anticipating all the objections which may be taken, but I am quite ready to reply to any. On one question I must, however, say a few words, viz., Compensation.

Since the days when cattle-plague was stamped out in this country the Government has recognised the principle of paying some compensation for the compulsory slaughter of animals. For thirty years our legislation against animal plagues has included compensation for all cases except where it can be shown, as in rabies, the disease is incurable and the carcase of no pecuniary value.

Tuberculosis is now admitted to be a contagious disease, and legislation is proposed for its control. That such legislation should include compulsory slaughter of diseased animals is recognised, and why compensation should not accompany it I fail to see. The Royal Commission was divided on the subject, and by a majority of one reported against the payment of compensation to butchers. When milk is inspected for the good of the public, as meat now is, the cowkeeper will be liable to have his animals seized, and if the butcher has no compensation, doubtless the cowkeeper will also be denied all payment. It seems to me that in equity the butcher and cowkeeper should both be assisted in their loss by the public, and that when the breeder and

feeder are controlled by regulations for the public good, compulsory slaughter of their stock should be accompanied by payment of liberal compensation. If legislation is based upon the wider basis of attacking disease whenever it exists, equal justice will be done to butcher, cowkeeper, and agriculturist.

If legislation is limited to the suggestions of the Royal Commission—suggestions directed entirely to protecting human health and life—the only owners of cattle who will be penalised are the butchers and cowkeepers. These two classes purchase their stock from breeders and feeders who, untrammelled by law, permit disease to exist and spread without fear of consequences. In the ordinary way of trade the butcher and cowkeeper cannot be sure that they are not buying diseased animals—the breeder and feeder can always know whether they are selling diseased or sound cattle.

If a law is made which, for the public good, submits butchers and cowkeepers to penalties of fine or imprisonment for owning tuberculous animals, common justice requires that some means of self-protection should be afforded. Of course it may be said that they can protect themselves by insisting on a warranty being given, or they may recoup themselves by a system of mutual insurance. The warranty is practically impossible to get in the ordinary way of trade. The mutual insurance is of little use if the payments are made from a fund subscribed to only by butchers and cowkeepers. They would be recouped by themselves—they would pay out of one pocket what they lost from the other, and the seller of disease would escape. A mutual insurance, to be equitable, should come from a fund subscribed by breeders, feeders, cowkeepers, and butchers. This would be difficult to form, and so I suggest a simple plan which the law might enforce if partial legislation be adopted, and the cowkeeper and butcher alone made responsible for tuberculosis in cattle.

The butcher and cowkeeper only purchase animals for specific purposes—for the production of meat or milk. They are unable to test the animal for latent disease, but the man who sells has that opportunity. Let a clause be inserted in any new law giving an implied warranty of freedom to any buyer of cattle for the purpose of meat or milk production. The warranty should extend for eight days from the time of purchase, and should only be effective when the reason for purchase was distinctly stated at the time of sale. Such a law would involve no new principle, but would be following closely the provisions of the Sale of Goods Act. It would be simply the usage which now obtains over nearly the whole of Europe. It would be equitable. It would simplify the financial problem, which is one of the difficulties in legislating against tuberculosis. It would force the breeder and feeder of cattle from his inertia, and oblige them to press the Board of Agriculture for assistance. Every butcher and cowkeeper would become an automatic indicator of diseased herds on farms. Local authorities would get rid of the troublesome question of compensating butchers, and would have disease brought to their notice instead of having it hidden from them. As an objection to the plan, I have heard it said that this is unfair to the farmer, whose burdens are now greater than he can bear. All my sympathies are with the farmer in these days of foreign competition, but tuberculosis on a farm should be treated as have been other contagious diseases among stock—by regulations for control, and by liberal payment of compensation for enforced losses.

The State has not grudged money for stamping out pleuro-pneumonia or swine-fever. Public money has been freely spent to control disease not dangerous to human life, how much more freely should it be granted to stamp out a virulently dangerous disease like tuberculosis. The difficulties of administrative control of tuberculosis would be greatly lightened by eliminating all

financial considerations of the butcher and cowkeeper, and the compulsory implied warranty would leave the question a very simple one.

What to do with tuberculosis in animals for the double purpose of protecting human life and saving our herds of cattle, may be gathered from the reports of the Departmental Committee of 1888, and of the Royal Commission of 1898. They must be read together, and thus it is clear that the essentials are :—

Inspection of meat and milk.
Compulsory notification of diseased animals.
Compulsory isolation of suspected or diseased animals.
Compulsory slaughter of clinically diseased.
Prohibition of movement of diseased animals or carcases.
Power to use tuberculin by local authorities.
Appointment of county veterinary officers.

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

THE annual general meeting of the above society was held at the Grand Hotel, Aytown Street, Manchester, on Thursday, December 1st, 1898, George Morgan, Esq., president, in the chair. Present: Messrs J. McKinna, W. A. Taylor, W. Woods, E. Faulkner, A. Lawson, A. W. Mason, J. E. Scriven, T. Hopkin, J. E. Kitchen, J. H. Carter, Clarkson, J. B. Wolstenholme, and the Secretary.

Minutes of the last annual meeting were read and confirmed.

Letters of apology for non-attendance were received from Prof. W. Williams, Messrs. J. S. Hurndall, F. Hobday, C. Hartley, H. Howse, A. L. Butters, A. Armstrong, and W. Carless, of Stafford.

The PRESIDENT then addressed the meeting. He congratulated the members on the continued success of the society, now entering upon its 34th year, and during its existence it had met all demands fairly and honestly presented, and is now left with a substantial balance in hand, thanks to the careful manner in which its business has been conducted.

If there is one thing that surprises me more than another it is the gross ignorance displayed by certain members of the veterinary profession with regard to this society, and who persist in calling it the Manchester Society, as if it were only a local affair of little or no importance, whereas its full title of the National Veterinary Benevolent and Mutual Defence Society is surely long enough and plain enough to be understood, while our balance at the bank and investments shows us to be in a sound financial position.

Such being the case it was rather a surprise to me the starting of the Jubilee Fund with new officers and new machinery in order to distribute what can never be any large amount. Imitation is said to be the greatest compliment a man or a society can receive, and in this respect we ought to be proud, only I cannot excuse them from pilfering a good share of our name without ever saying "by your leave," and afterwards have the cool audacity to ask for a donation from our funds.

When the society was started the subscription was 21s. per annum, since then it has been reduced one half, which has been found so far ample to keep it going. I don't want to propose a smaller sum, but I should like to see an attempt made to federate the whole of the veterinary medical societies, 20 in number, with this society, each contributing a guaranteed sum to our funds annually by which the whole of their members would be entitled to benefits to be derived from this. I would suggest a sum of £5 for every 20 members, and that each society should be represented on the council, and

should be authorised to deal with local cases in the first instance, or something to this effect.

The SECRETARY said it was his pleasing duty to once more present an account of the society's proceedings during the last twelve months. Notwithstanding the adverse criticism it has received in the press and otherwise from persons in high position, it is quietly and consistently doing its good work. True we have had but little calls upon its reserves this year, but we are ever ready and willing to help our professional brother in distress whenever called upon, without letting all the world know.

As you are aware our rules now allow us to grant assistance from our benevolent fund to members of the Royal College of Veterinary Surgeons who are deservedly in need of it, even if not members of our society, also to their widows and children, so far we have had no such claim in our expenses.

Your council have met twice during the year and had several cases before them, to all of which they have given their united support. One case was arranged by consent, another won with costs. They had also finally accepted Mr. Whittle's resignation as trustee, and appointed Mr. A. W. Mason, of Leeds, to fill the vacancy. The deeds and all securities have been in the hands of Messrs. Cobbier, solicitors, of Manchester, who arranged the transfer of the trust funds, etc., from Messrs. Whittle, Reynolds, Hopkin, and Lawson, to Messrs. Mason, Reynolds, Hopkin and Lawson, and I am pleased to say all is now in order with regard to the funds.

In accordance with Rule II. and resolution passed at the last annual meeting nine members have been struck off the roll of membership who were two years and upwards in arrear.

It is with regret I have to report death of three members during the year, viz., Messrs. A. L. Gibson, H. G. Rogers, and Captain Russell.

We have had one resignation, and enrolled 27 new members, a fact which speaks well for the popularity of the society.

The TREASURER reported that the financial year ends on December 31st, when the accounts will be audited and balance sheet forwarded to each member. The monies in hand to present date is:—

	£.	s.	d.
Defence Account:—			
Balance in Bank	564	11	4
Subscriptions to date	128	12	6
Arrears (18 members)	10	0	6
Benevolent Account:—			
Balance in Bank	249	13	4
Invested Funds	3400	0	0

Note.—Re-investment of £600 in Mersey Dock and Harbour Board reduces the income £4 7s. per annum.

After a short discussion it was resolved that the office-bearers and council form themselves into a committee with power to add to their number, to take into consideration the suggestion of the president as to the advisability of federating with veterinary societies, and if so what would be the best plan to bring same to a practical issue.

The SECRETARY read circular letter from Mr. W. F. Barrett asking for support to the Jubilee Benevolent Fund. It was agreed that same should lay on the table.

The following were appointed officers for the year 1899:—

President.—Geo. Morgan, Esq., F.R.C.V.S., Liverpool.
Vice-President.—W. A. Taylor, Esq., F.R.C.V.S., Manchester.
Treasurer.—Edward Faulkner, Esq., M.R.C.V.S., Manchester.
Secretary.—Sam Locke, Esq., M.R.C.V.S., Manchester.

Council.

A. L. Butters, Esq., M.R.C.V.S., London.
J. S. Carter, Esq., F.R.C.V.S., Bradford.
T. Hopkin, Esq., F.R.C.V.S., Manchester.
A. Lawson, Esq., M.R.C.V.S., Manchester.
A. W. Mason, Esq., F.R.C.V.S., Leeds.
R. S. Reynolds, Esq., M.R.C.V.S., Liverpool.
J. E. Scriven, Esq., M.R.C.V.S., Tadcaster.
R. C. Trigger, Esq., F.R.C.V.S., Newcastle-under-Lyme.
W. Williams, Esq., F.R.C.V.S., Edinburgh.
J. B. Wolstenholme, Esq., F.R.C.V.S., Manchester.
W. Woods, Esq., F.R.C.V.S., Wigan.
J. E. Kitchen, Esq., M.R.C.V.S., London.

Auditors.—Messrs. Buller, Lillon and Pownall, and J. B. Wolstenholme, Esq.

A vote of thanks to the office-bearers for their services during the year was passed, also one to the chairman for presiding.

SAM. LOCKE, *Hon. Sec.*

CONTAGIOUS DISEASES ANIMALS ACT, 1894 AND 1896.

SUMMARY OF RETURNS OF OUTBREAKS for the four weeks ending December 10th, 1898.

ENGLAND AND WALES.

Pleuro-Pneumonia.	Swine Fever.	Glanders (including Farcy).	Rabies.	Anthrax.	Sheep-Scab (for month of November.)
None	Outbreaks 153 Slaughtered 2,448	Outbreaks 40 Attacked 72	None	Outbreaks 25 Attacked 64	Outbreaks 365

SCOTLAND.

None	Outbreaks 3 Slaughtered 7	Outbreaks 2 Attacked 6	None	Outbreaks 16 Attacked 19	Outbreaks 20

IRELAND.

None	Outbreaks 13 Slaughtered 205	Outbreaks 1 Attacked 1	Dogs 11 Other animals 1 Destroyed 26	None	None

Correspondence.

To the Editor of THE VETERINARY JOURNAL.

SIR,—As an attentive reader of the VETERINARY JOURNAL it causes me considerable pain to hear of the last outrage. From the time of your esteemed predecessor, Dr. Fleming, "very virulent and savage attacks" seem periodically to have been made on the Editors of the VETERINARY JOURNAL. Doubtless, with the honourable purpose of sparing the feelings of their readers, successive conductors of your valued organ omit the details of these revolting crimes and content themselves with more or less strongly worded admonitions to the guilty parties; but, if I might be permitted to remonstrate in a perfectly friendly way with you on the manner of these utterances, it would be to advise a less fatherly tone and the avoidance of a too slavish adherence to Parliamentary language. It sometimes gives the impression of weakness. Dr. Fleming took a much better line when he spoke of "truculent mendacity," "a lie in every line," the need of "lessons in truth and propriety," etc. This is also more in accordance with the traditions of the journal.

I think, however, it would be interesting to your readers to have full details of the "very virulent and savage attack" made upon you personally. It would so much more effectually squelch the offender. And as you might, from reasons of modesty, be unwilling to immediately comply, I may be pardoned for giving you a friendly lead by suggesting, of course, in the most strictly Pickwickian sense, that your description is not in accordance with fact. The only details I have hitherto encountered referred to an amusing paragraph in the *North British Agriculturist*, headed, "A Modest Principal." I have no doubt the article would prove as diverting to others as it did to me, and I courteously invite you to print it. I think this would be desirable, as spiteful persons might otherwise form unfavourable conclusions. But to come to facts. The only matter I have published referring to you personally is a reprint headed "A Modest Principal." Reprint it in your own pages and let the profession judge between us.

I have recently set forth at some length my reasons for criticising the last award of the Steel Memorial Medals. I criticised the original Steel Committee, and I criticised the committee of the council. The former collected the fund on the promise that it should be used to institute a scholarship or prize for students. They further promised that before anything definite was done, "subscribers should have ample opportunity for giving expression to their views." Instead of doing either of these things, they first asked the subscribers to meet—*nowhere*. Some collected at Red Lion Square. They were dispersed by the chairman, Mr. Roalfe Cox, who adjourned the meeting *sine die*. Naturally they were disgusted. On the 4th May, 1892, some members again came together, in a mysterious way, at Red Lion Square, and passed some resolutions, one of which was in flagrant violation of the pledges given when the money was collected. How this meeting came together, who called it, who were present, and what discussion took place, has never been published. A so-called "report" was given out, which contained the carefully-prepared statement of the committee, but none of the above details. The whole proceeding was shameful to those responsible. You, Sir, appear quite *au courant* with what occurred, if one may judge by the easy way in which you gloss the affair over. "Doubtless, there is a record of . . . the number of subscribers present," etc. If there is, please give the names, and say how the meeting was called and what discussion took place. Then we shall know how much basis there is for these facile generalisations. So much for the original Steel Committee. Now as to your second point. You say I proposed Professor McFadyean as

the first recipient of the medal. I did, and if the exact circumstances recurred I should do so again. As a member of council, bound by the trust conditions imposed when the money was handed over to the council, it was my duty to see the medal was awarded according to those conditions, and that it fell into worthy hands. In proposing Professor McFadyean, I believe I fulfilled that duty.

I believe the intention of founders and subscribers alike was to encourage the doing of work calculated to advance the profession, and, therefore, that the award should go to those who gave promise of performing such work. I need not discuss Professor McFadyean's abilities. They are acknowledged even by his enemies. But I may be permitted to point out—what I think no one will deny—that we anticipate from Professor McFadyean work infinitely greater, both in amount and importance, than what he has yet done, great as that is. He was, therefore, in my opinion—and always bearing in mind the trust conditions imposed on us– the fittest person. As an individual, I am free to criticise and to resent the doings of the original Steel Committee ; as a member of council, I am bound by the pledges entered into with that committee, strongly as I differ from it.

I am admonished to be modest, and to add to my learning, prudence and self-restraint. I have my own views of modesty, and, such as they are, they do not permit of my boasting in the lay press of distinctions conferred on me by a professional body. Nor do they suffer my learning to appear excessive in my own eyes—I thank fate I know too many men who deserve to be called learned ever to imagine myself of the same category. As to my want of prudence and self-restraint, I have little defence. If I think a thing true, I know no reason why I should fear to say it, and, till now, I lack a teacher to show me otherwise.

I have said nothing of my immediate reasons for opposing this year's award ; they are better understood. To me, it is not a grateful task to oppose my seniors, whatever the incentive. Still less grateful would it be to discuss in these columns—where I find myself a guest, and in the presence of a venerable host whose past achievements I gladly acknowledge—a purely personal question.

But I may be allowed to record my belief that honour consists less in the reception of awards or the acquisition of medals than in the reputation of useful work conscientiously performed—a respect in which you are already passing rich. Medals and outward show may fire younger men. The most fitting honours of those in the evening of life are inscribed on the hearts of their fellows and on their own consciences.—Your obedient servant,

JNO. A. W. DOLLAR.

56, New Bond St., London, W.,
12*th December*, 1898.

[I willingly print the above letter from Mr. Dollar. In all discussions it is essential that both sides should be heard, and this is all the more important when one of the disputants is a man of such dialectic skill as Mr. Dollar. Besides, Mr. Dollar, though a hard hitter, is a fair one, and he has distinctly the courage of his opinions. He is, therefore, an adversary to be respected.

Mr. Dollar complains that I did not give last month details of the severe attack he made on me. I really thought that everybody read the *Veterinarian*, and for that reason I did not think it necessary to do more than refer to his articles, quoting

a few words here and there. He asks me to print the extract from the *North British Agriculturist*, which I willingly do, merely premising that this is a high-class journal with whose management and editorship I have no more to do than with the management and editorship of the *Times* or the *Standard*. The proprietors of the *North British Agriculturist* are men of high character and established position, who would not allow their paper to be used for any mean purpose, or for the laudation of any person unless they considered that person distinctly entitled to praise. For the appearance of the notice in the *Agriculturist* I am not to blame, any more than I am for the errors which it contains. At the same time, if the reprinting of the article is to gratify Mr. Dollar, here it is.

Mr. Dollar resents my "fatherly tone" and my "Parliamentary language," and desires a return to the stronger and more highly spiced language of my predecessor in the editorial chair, and he becomes just a little offensive in this part of his otherwise courteous letter. I suppose it is his youthful vehemence and fire that mislead him in this point, and urge him to desire a more truculent enemy on whom he can deal more vigorous strokes, but he must pardon me if I decline his invitation. No one admires fervour and boldness in young men more than I do, but surely all unbiassed readers will perceive and admit that Mr. Dollar's very boldness and youthful enthusiasm justify the assumption by me of a fatherly position and the employment of grave language.

In the second part of his letter Mr. Dollar treads, as it seems to me, on somewhat slippery ground. He is righteously indignant at the proceedings of the Steel Committee, and asks for detailed information, but this is as easily obtainable by him as by me. We stand both upon the same platform and have the same privileges. But a little farther on he abandons this position, which might have been tenable, and assumes the position of "a member of council, bound by the trust conditions imposed when the money was handed over to the council." Mr. Dollar was not merely passive in this matter. That was bad enough; he ought not to have entered this wicked and dishonest council. But he acted upon principles that were in flagrant opposition to those proclaimed by himself; he voted for Professor McFadyean. Of course I think he acted rightly in voting for Professor McFadyean, who is an ornament to his profession, but I cannot see how Mr. Dollar can claim consistency for his conduct. He says, "as an individual I am free to criticise and to resent the doings of the original Steel Committee: as a member of

council I am bound by the pledges entered into with that committee, strongly as I differ from it." Are there, therefore, two Dollars, and if so, which of them writes this letter? Is there a Dr. Jekyll and a Mr. Hyde? Mr. Dollar must beware of too fine-spun distinctions between the individual and the member of council; such casuistry is apt to end in dishonesty. My young friend is, I know, a brilliant French scholar; let him read or re-read what Pascal says in his *Lettres Provinciales* about the Jesuits and their dangerous casuistry, and let him take warning. It would be a pity if anybody could say, with any show of reason, that Mr. Dollar had been born two hundred and fifty years too late.]

DEAR SIR,—In your last issue you do me the honour of a special article. I have been told that when one gets a leading article it is the first step to fame. Being still under the influence of this information, I must thank you for the lift.

To the point, however. Your first paragraph refers to the crime of the lay press receiving the report of the proceedings of the B.C.V.M.S. before the Journal. You evidently think I had something to do with the matter. I plead not guilty. I sent my paper to the secretary of the society as requested, so that he might send it you, and if it fell into other hands, I was not to blame. The other parts of the leader I will not discuss, as it is just the old story, "Doctors differ."

My duty may be first to the profession, but I have a special duty to my teacher, and would not have done as you insinuate.—Yours, etc.,

J. MCLAUCHLAN YOUNG.

Aberbeen University,
27th December, 1898.

A MODEST PRINCIPAL.

MODESTY is a virtue as commendable as it is rare nowadays. At the opening of the New Veterinary College, Edinburgh, last Wednesday, there was a great gathering of students and distinguished members of the veterinary profession. The veteran Principal was in great form, supported as he was by the Lord Provost, and surrounded by so many of his old students—his "boys" as he affectionately called them—who were now filling highly responsible and influential posts in the profession. The Principal had that morning received a telegram informing him that the Council of the Royal College of Veterinary Surgeons had decided to award him the Steel Gold Medal for eminence in veterinary science, that being the highest honour which the Council had it in their power to confer on any man whom they delighted to honour. The Principal could have elicited the enthusiastic plaudits of the company by announcing the fact that the Council, whom he had frequently been opposed to, had conferred this great honour upon him, but his modesty prevented him from doing so; and, instead of making known the fact that such an honour was to be conferred upon him, he devoted his remarks to condemning the injustice done to the veterinary profession by the Board of Agriculture in appointing naval and military men, instead of veterinary surgeons, to be inspectors under the Contagious Diseases Act. Everyone will agree with the

Principal in holding that the appointment of highly undistinguished naval and military officers as inspectors of swine-fevered pigs would admirably sustain the humour of a comic opera, but is the very quintessence of absurdity when carried into serious, earnest, business life and practice.—*North British Agriculturist, Wednesday evening, October 12th*, 1898.

Legal News.

"RUBBING IN" A VETERINARY PRESCRIPTION.

On Tuesday, 6th Dec., at Beccles County Court, before his Honour Judge Eardly Wilmot, an action was brought by Elijah Rumsby, agricultural labourer, Aldeby, to recover £10 10s. from Mr. E. P. Smith, veterinary surgeon, Beccles, under very unusual circumstances. Mr. J. A. H. Ferrier appeared for plaintiff; Mr. H. Lovewell Blake for the defendant.—Plaintiff stated that he was in the employ of Mr. E. Capon, farmer, of Aldeby, and that in August last it was arranged that he should be a "three-quarters" man for harvest, filling up the rest of his time with the cows. He was to have £6 10s. for the harvest; but a few days after it began one of the cows was taken ill, and Mr. Capon sent for the veterinary surgeon. Defendant attended. This occurred on a Saturday afternoon. Having given the cow a draught he poured some lotion on the cow's back, and told plaintiff to "rub it in." Plaintiff made no objection, and did so, but on defendant telling him to rub with both hands, he said "No," as he had scratches and a cut on the other hand. He told defendant the lotion made his hand smart and tingle; but defendant said it would not hurt him, as it was only "vinegar and water." Defendant told him to wash his hands well afterwards, and he did so, but he awoke on Sunday morning, between three and four o'clock, to find his hand covered with blisters and the fingers drawn up. He saw Mr. Smith on the road later in the day, and told him about it. Defendant said it would be all right in about two days, but he did not get right, and had to go and see the doctor. He was unable to work for three weeks, during which time he was treated by Dr. Fox. He saw Mr. Smith again with reference to compensation, but defendant declined to give him anything.—Dr. Fox stated he attended the plaintiff for three weeks. His fingers were drawn up, and the hand blistered from some irritant. The lotion used was strong enough to cause the injury.—Clement Bailey, a lad in Mr. Capon's employ, and Mr. Capon also, gave evidence corroborating plaintiff's statement.—Mr. Capon said he considered it would be part of plaintiff's duty to hold the cow's head while a draught was administered, but not to rub in the lotion. That was for the vet. to do.—Mr. Blake, for the defendant, submitted there was no privity of contract between him and plaintiff, who was doing his ordinary work. The lotion was harmless, provided the plaintiff had washed his hands clean, as he was told to do. If he had any claim it was against his master.—Mr. Smith, in his evidence, admitted that he told plaintiff to rub the lotion in. He also told him to wash his hands well after doing so. He rubbed the plaster on himself, and suffered no injury, and had never known a case of this kind before in his practice extending over 21 years. He would have been willing to give the man something, as he was sorry for him, if Mr. Capon had done so. The services the man rendered were such as he expected from a cowman. He could not do everything himself.—Mr. R. W. Snell, Arthur Allgar, and James Boreham, cowmen, also gave evidence. Allgar said he had used the mixture thousands of times, and had suffered nothing. Boreham, who attends to the Roos Hall dairy, said Mr. Smith doctored their cows, and when he (witness) rendered similar service to that of plaintiff he

considered it was part of his work. He had not suffered any injury.—The Judge said it was quite clear defendant was liable for the injury, and could not shift the responsibility on to Capon, who did not know what lotion he was going to give. Judgment was given for plaintiff for £5 and costs.—*East Anglian Daily Times.*

Extracts from Foreign Journals.

VALUE OF INJECTIONS OF TUBERCULIN.

Weidmann, basing his statements on a great number of injections made, declares himself thoroughly convinced of the value of tuberculin as a means of diagnosis. The fact that extremely tuberculous animals only react a little or not at all proves nothing, for these animals present such clinical symptoms that diagnosis is always possible. Injections are specially valuable in cases of slightly-pronounced tuberculosis; they allow, in fact, a early diagnosis to be made and serious prophylactic measures to be taken before the animals become too dangerous for their neighbours. Herr Weidmann thus thinks that it is not necessary to employ strong doses of tuberculin, for in that case the general symptoms are too accentuated: shivering, trembling, want of appetite are seen to ensue; and though these manifestations are passing and harmless, they frighten the owner, and might even stop some people from having recourse afterwards to the use of this agent. The author uses the following preparation: Koch tuberculin, 1 per cent.; water 9 per cent.; phenicated water, ½ per cent. This preparation is injected into the different animals in the following proportions: calves, 1 c.c.; bovines up to one year old, 2 c.cs.; bovines over one year, 3 c.cs.; aged bovines, 4 c.cs.; bulls, etc., 5 c.cs. Injected in this dose, tuberculin gives rise to scarcely anything but an increase of temperature, without causing any noticeable derangement of the digestive functions.—*Oesterreichische Monatsschrift.*

IMMUNISING EFFECTS OF THERAPEUTIC SERUM INFLUENCED BY MODE OF INTRODUCTION.

Investigation has been made by M. Arloing with anti-diphtheric serum. The experiments may be tried on the rabbit and on the guinea-pig, but it is in the dog that they give the clearest results. The toxine employed killed a guinea-pig in two days with the dose of 5 grammes. The serum opposed to the toxine was at one time a fresh serum, immunising 50,000 times its own weight; at another time a serum two years old, which originally also immunised 50,000 times its own weight. To sum up, when the anti-diphtheric serum is administered separately, its complete antitoxic action is greatest when it is introduced into the blood; least when it is introduced into the conjunctive tissue. The peritoneal method seems a little less favourable to the development of antitoxic action than the injection into the blood. Introduction of the serum into the blood is equivalent to the previously mentioned mixture of serum and toxine. It seems legitimate to deduce from M. Arloing's experiments that the antidiphtheric serum affects more easily the general than the local effects of the toxine. Consequently, in the struggle against the local effects of certain microbian products, it makes some difference whether one or other method is used to introduce the therapeutic serum into the organism.—*Journal Vét de Lyon.*

HALLUCINATION CONSECUTIVE ON DISTEMPER IN A BITCH.

As mental diseases constitute a chapter of veterinary medicine which has been little developed, it seemed interesting, for this sole reason, to give an account of the following observation in which the animal presents a very special form of hallucination seldom observed, I believe, in animals. Pierquin, in his work on "Madness in Animals," notifies a certain number of facts in which the manifestations were preceded by definite accidental causes—especially fear. The case in question was one of a phobia whose initial cause was a microbian disease with nervous localisation on the subject, namely, distemper. The various symptoms have disappeared, and there remains of the original disease nothing but a peculiar sensibility to light, which causes a perpetual hallucination.

A bitch, three years old, was shown me on the course of a visit. At the moment the sun was beating brightly upon a white wall; the animal's eyes never left the lighted-up part, and might have caused a chance observer to think that a fly or some other insect which it wanted to catch was attracting its attention. It went, came, maintained for some time its fixed position, darted at one part or other of the wall, and kept on doing this indefinitely. It was easy to perceive from its look and from its attitude at this moment that it had a definite sensation of its fictitious object. "The imaginary object which figures in hallucination is perceived in the same conditions as if it were real." (Binet and Ferré.) This attention lasted until the sun was hidden. This kind of hypnosis did not prevent the animal from attending to its other concerns: when called by its master it came to him, but as soon as it was free it returned to its post. In the evening, as soon as a candle was lit, it crossed the court quickly, and, having got close to it, uttered a bark, and maintained indefinitely its fixed position in front of the pane which was lighted up. The facts of its history which I was able to procure were scanty. Reared on the farm, the bitch showed no signs of anything abnormal till it was six months old, when it contracted distemper. It was immediately afterwards that it manifested the symptoms notified above, which lasted more than two years afterwards. When carefully examined, it presented perfect soundness of the different organs and apparatus; the general condition was good, appetite excellent, hearing and smell normal, as was also the pupil; while resting, and in the shade, there was no fright in its look. Sensibility was equal all over, and palpation of the walls of the skull showed nothing abnormal. It seemed interesting to try whether, whilst obeying a luminous sensation, the subject realised its intensity. To this end, I lighted in the same room at night two candles—one by itself, the other enclosed in a lantern whose glasses were smoked—and also a petroleum lamp which gave a brighter light. It was impossible for me to notice the least preference; the bitch, not busying herself with the source of the light itself but with the light cast on the walls, kept on examining and charging by preference the parts of the wall which were habitually lighted up—a preference which continual experience had caused her to adopt. In regard to colours, there was the same indifference; whether the pane was black, white, or red mattered little, provided it was luminous. Another question arose from the point of view of the functional independence of the two hemispheres. I closed the left and the right eye alternately; here the result was still the same. The animal would suddenly escape, pursuing its imaginary chase both to left and right.

The interest of these trials consisted in the fact that, in animals, sensations can only be objective and in no way subjective, and that there cannot be present in them any moral pressure exercised, even unconsciously, on the part of the observer. Whether there is now any lesion existent in the animal, autopsy alone could, perhaps, determine.—M. THIRION in the *Recueil Vétérinaire.*

A CASE OF DIAPHRAGMATIC HERNIA IN THE HORSE.

The horse "Bavard" of the 4th squadron was a barb 15 years old; by reason of its very gentle character it was chosen for jumping exercise. For a year it had been subjected to this rough exercise. From time to time the animal limped, sometimes slightly, sometimes in a more accentuated manner. It was difficult to state the exact cause, the crippled limb (the near fore-leg) presenting absolutely no abnormal symptoms; this intermittent limping could therefore be ascribed only to rheumatism, a trouble very frequent in Africa. On the 11th January, 1898, "Bavard," whose appetite was for the time gone, and who showed signs of pretty well marked poorness of condition, was shown us when we made our rounds. Examination showed a trouble in the digestive functions, which we attributed to a gastro-intestinal derangement. Kept in the infirmary for a space of nineteen days, this patient was put on white diet, counter-stimulants, and lastly a diet mixed with mashes. On its return to health it left the infirmary to take up again the hard work of the jumping exercise. One fine day its breathing was found to be more laboured than usual, its gait more halting; it was consequently decided to remove it from this special work, and it was transferred to the fifth squadron. In the meantime, in order to replace his own horse, which was for the moment indisposed, an officer took it and kept it for a few days. On the 5th May, 1898, or five months after its first entrance into the infirmary for gastro-intestinal derangement, we were called in at night to attend to it. The patient was cold, head lowered, limbs twisting and bending under its body; the conjunctivæ were of a violet hue, the other mucouses which could be seen were of the same colour. We at once thought of some serious intestinal lesion, volvulus, for example. In our doubt, however, we bled the animal freely, and this produced an apparent improvement. The blood was black, flowing with difficulty, and coagulating on its exit from the vein. We applied mustard poultices, which are of such great service in cases of colic; finally, we made a hypodermic injection of pilocarpine and sulphate of eserine. The animal became calm, and was put into its stable again. After having made all our recommendations we left it about two o'clock in the morning, hoping to find it cured on our return. Great then, was our surprise when the officer in charge of the infirmary came to tell us that "Bavard," almost without a struggle, had died about three o'clock in the morning.

Autopsy.—We found the animal lying on the ground, stretched on its right side. Through the nostrils trickled an insignificant quantity of a liquid seeming to come from the stomach; the apparent mucouses were black; the stomach was not yet distended. Opening of the body was performed with great care; incision of the skin caused to drip out some very black blood, which coagulated on contact with the air. By reason of the thick layer of fat found on opening the abdominal cavity, it may be said that the animal was in a good general condition.

Thoracic Cavity.—The lungs were splenised; the right lung had diminished in thickness in its diaphragmatic portion, which is explained by the pressure of a loop of the small intestine, measuring about three yards long. The latter was black; hemorrhage had penetrated all the layers, and on the level of an artificial opening made in the diaphragm, this intestinal loop was twisted back upon itself. The heart was crammed with black and coagulated blood.

Diaphragm.—At the height of the right hepatic lobe, a few centimetres from the natural diaphragmatic opening, offering a passage to the termination of the œsophagian canal was found in the aponeurotic portion of the diaphragm an opening of oval form, measuring five inches long and three-and-a-half broad, with which was entangled an intestinal loop, the loose portion of the

thin intestine. This measured about three yards long, and, bent back on itself, it had formed a volvulus. It was black with interstitial hemorrhage, and was pressing the right lung, which seemed to have lessened in size.

Opening through which the intestinal loop penetrated into the chest. We have said that this was oval, measuring five inches in diameter and three-and-a-half inches broad. The state of the edges ought to be considered, for it gave us information from which we could ascertain the age of the lesion. The deceased animal, in fact, was on the 11th January, 1898, treated for a gastro-intestinal derangement. It had had a few digestive troubles, which were made apparent by slight colics. We are, therefore, led to think that as early as this time the lesion was beginning, and that under the influence of violent exercise it could not but get worse. The edges of this diaphragmatic rent were swollen up, thick, smooth, hard, resistent, and of fibrous consistency.

To sum up, we have, thanks to the autopsy of this patient, the proof or explanation of its intermittent lameness, of the passing fits of breathlessness during the jumping exercises, and of the slight colics which it gave signs of before death.—M. EMILE HENRY, Veterinary Surgeon to the Chasseurs d' Afrique, in the *Recueil Vet.*

From a work on the relation between the form of the skull and the size of the dog, by MM. Dhéré and Lapicque, it appears that the brains of the smaller dogs have a rounded form, and tend to the spherical; those of large dogs, on the other hand, are flattened in the vertical direction and elongated in the antero-posterior direction, and their frontal region shows a sharp transversal depression, which produces on the contours of the *norma verticalis* a notch which does not exist in the smaller animals.

A new trichophyton has been discovered by MM. Matruchot and Dassonville which causes herpes in the horse. When cultivated artificially, this trichophyton appeared as a plentiful mycelium with large filaments, generally ramified in right angles. The spores develop laterally in an ampullary bud, which soon receives all the protoplasmic mass, forms into compartment, and becomes pedicellate. At the same time, the mycelian filaments are transformed into reproductive chlamydospores in the same way as the lateral spores. Two inoculations made on the guinea-pig were positive.

M. Nocard gives, in a lecture printed in the *Recueil de Médecine Vétérinaire* an interesting account of the principal infectious cattle diseases in Argentina These are three in number: *lombriz* of the sheep, diarrhœa of the calves, and *enteque* of the adult bovines. The *lombriz*, as it is called in Argentina, annually carries off a great number of victims; it rages mostly among young animals shortly after weaning, and is symptomatised by weakness, thinness, and diarrhœa. When the animals succumb they are veritable skeletons. On autopsy, such a number of filiform reddish, very active worms are found in the stomach that one is naturally led to conclude that they are the agents of the disease. Their reddish colour is thought to be due to their having sucked the blood in the thick part of the mucuous; their great number seemingly explains the progressive anemia of the subject and the cachexia preceding death. These worms are also found in the intestines and in the bronchi. M. Lignières, however, discovered that it was not these worms but a cocco-bacillus of the group of the pasteurella which was the agent of this *lombriz*. M. Nocard was able to produce, experimentally, the disease in all

its phases by means of this bacillus. It is analogous to the cocco-bacillus which is the agent of typhoid fever in the horse, and may be modified in its virulence and transformed into vaccine. The diarrhœa is also caused by a cocco-bacillus; the *enteque*, which is a consequence and the last phase of the diarrhœa, is caused by the same cocco-bacillus as the diarrhœa; this bacillus may, like that of the *lombriz*, be gradually modified and transformed into vaccine. *Lombriz*, diarrhœa, and *enteque* are, hence, microbian diseases; they are pasteurelloses, whose microbe may be attenuated in its virulence and transformed into vaccine.

THE ANNUAL STATISTICAL AND GENERAL REPORT OF THE ARMY VETERINARY DEPARTMENT FOR THE YEAR ENDING 31ST MARCH, 1898.

WAR OFFICE,
1st April, 1898.

SIR,

I have the honour to submit, for the information of the Most Honourable the Secretary of State for War, and the Right Honourable the Field Marshal Commander-in-Chief, the Annual Statistical and General Report of the Army Veterinary Department for the year ending 31st March, 1898.

HOME.

The health of the army horses in the United Kingdom for the past year has again been very satisfactory.

Strength.

There were 13,825 troop-horses, 135 mules, and 1,845 chargers on the 31st March, 1898, as compared with 13,386 troop-horses, 109 mules, and 1,796 chargers of the previous year.

Inefficiency.

The amount of inefficiency from diseases and injuries (Table J) was 4·2 per cent. higher than last year, being 65·12 as compared with 61·10. In 1895 it was 60·01. In 1894 it was 67·35.

Mortality.

The number of deaths from all causes was 31 more than last year, being 363, or 2·73 per cent. of the average strength. In 1896 the number of deaths was 332, or 2·52 per cent. In 1895 was 2·22 per cent. Of the deaths, 1·72 per cent. died, and 1·01 per cent. were destroyed. The greatest mortality was again in the Regimental Transport, viz., 4·66 per cent. The next was in the Dragoons and Lancers of the Line, 4·0 per cent.; then the Household Cavalry, 2·80 per cent.; the Army Service Corps (with the Remount Establishment attached to it), 2·63 per cent.; the Hussars of the Line, 2·29 per cent.; Field Artillery, 2·12 per cent.; Royal Engineers, 1·67 per cent.; Horse Artillery, 1·47 per cent. No deaths occurred in the Military Police during the year. The mortality among the Mules was 2·83 per cent. (see Table J).

The mortality was highest in the months of March, August, November, and September, and lowest in February, January, and December (see Table F).

Admissions to Treatment.

The total number of admissions to treatment was (exclusive of 324 remaining on 31st March, 1897) 8,649, or 65·12 per cent. of the average strength, being 4·02 per cent. more than the previous year (see Table J). The

largest number of admissions, as in previous years, was in the Army Service Corps, which has the Young Horse Depôts attached to it, being 84·67 per cent. The lowest was again in the Military Police and Royal Engineers, being 15·49 and 30·31 respectively. The percentage of admissions of mules was less than last year, being 44·34 against 45·45. The admissions were fewest in December, January, and February, and most numerous in August, July, and September. Last year the admissions were most numerous in May, June, and April (see Table F).

Duration of Treatment (*Table L*).

The average number of days each horse remained under treatment was the same as last year, viz., 22 days. This is one day more than the years 1895 and 1894. The inefficiency from the number of days' absence from duty of each horse in average strength is 14 days. This is one day more than the previous year.

Surgical Diseases and Injuries.

The largest number of admissions is from surgical diseases and injuries (see Tables A and C, Classes 10 and 13), being, in the aggregate, 5,552, or 348 more than in the previous year. Of these 14 died, and 101 were destroyed. In 1896, 14 died, and 118 were destroyed. In 1895, 14 died, and 95 were destroyed. Of the horses destroyed, 53 were for the fracture of limbs, etc.

Diseases of the Chest and Air Passages (*Class* 2).

There is an increase in this class of 77 admissions, as compared with last year; 810 against 723. In 1895 the admissions were 712. 411 cases of catarrh were admitted, as against 260 in 1896. In 1895, 373 cases were admitted. 99 cases of laryngismus (roaring) were admitted, as against 118 in 1896. The mortality in this class was much higher than last year; 82 horses died, and 11 were destroyed. In 1896, 62 died, and 4 were destroyed. In 1895, 48 died, and 4 were destroyed.

Specific Diseases (*Table A, Class* 11).

There is again a decrease in this class for admissions for Influenza and Epizöotic Fever, 75 cases being admitted, as against 170 in 1896. In 1895 208 cases were admitted. In the 1st Life Guards, 9 cases of Epizöotic Fever occurred; 2nd Dragoon Guards, 35 cases; 13th Hussars, 1 case; Army Service Corps, 4 cases; and in the Field Artillery, 26 cases. The percentage of admissions for this disease was 0·56 of the average strength of the Army, or 0·73 less than previous year (see Table G). In 1895, the percentage for admissions was 1·56. Influenza and Epizöotic Fever were confined to seven stations, viz.: Bristol 1, Coventry 3, Dublin 5, Leeds 35, Regent's Park 9, Shorncliffe 21, and Trowbridge 1 (see Table H). In 1896, these diseases were prevalent in nine stations, in 1895 to 8 stations.

The admissions for Adenitis are 150 more than the previous year, being 423, as compared with 273. In 1895 253 cases were admitted, and in 1894 325 cases.

No cases of Glanders—Farcy—have occurred during the year, but a horse showing suspicious symptoms in the 3rd Hussars, at Shorncliffe, was destroyed in November, 1897; on a *post-mortem* examination being made, it was found to be a case of Pyæmia. However, in order to be quite sure, the horses that stood each side of the animal, as well as those in the same stable, were inoculated with mallein. The temperature in each case remained practically normal. The last case of Glanders among Army horses occurred at Hounslow in October, 1888.

General Diseases (*Class* 1).

There is an increase of 91 admissions in this class compared with 1896, being 850 against 759. In 1895, 572 cases were admitted. 22 horses died and 3 were destroyed; in 1896, 20 horses died and 4 were destroyed. In 1895, 19 horses died but none were destroyed.

Age in Relation to Health and Mortality (*Table I*).

The admissions to treatment are, as usual, highest among the young horses, viz., 17·45 per cent. at 4 years of age, and 14·16 at 5 years of age, after which age the percentage is gradually reduced. The percentage of deaths at 4 years of age is 2·57 more than in 1896, being 17·63 as against 15·06. In 1895, the percentage was 12·50. At 5 years of age the percentage is 0·72 more than in 1896.

Age of Horses (*Table B*).

The average age of horses serving on the 31st March last is three months less than last year, being eight years and six months. In 1896 it was eight years and nine months; in 1895, eight years and eleven months; and in 1894, nine years. There are 9,876 horses of 10 years and under, and 543 of 16 years of age and upwards. The oldest horses are in the Infantry Transport; the next in the Royal Engineers, Army Service Corps, and Household Cavalry. The youngest are in the Hussars of the Line.

The average age of the mules is four years seven months less than in 1896, being 10 years and seven months, as against 15 years and two months.

Cast Horses (*Table E.*)

The number of horses and mules cast and sold during the year was 1,344, being 10·12 per cent. of the average strength. In 1896 1,240 were sold, or 9·41 per cent.; in 1895, 1,238 were sold, or 9·29 per cent.; and in 1894, 1,122 were sold, or 8·42 per cent. The average length of service was 10 months more than last year, being 9 11-12th years against 9 1-12th years. The average age of the horses sold was 14 years (see Table I). The average price realised was 10s. 10d. less than in 1896, being £8 12s. 2d., as against £9 3s. In 1895 the average price realised was £9 14s. 2d., and in 1894 it was £9 9s. 10d.

795 horses and mules were sold for old age at an average price of £8 5s. 4d. 577 horses were sold in London at an average price of £8 18s., being an average decrease of £1 16s. 1d., as compared to that obtained in 1896. This decrease may in a measure be accounted for by the fact that in 1896 80 young cobs were sold on reduction of establishment, realising an average of £23 12s., thus increasing the average obtained in 1896.

74 horses and mules were sold in Dublin at an average of £8 2s. 4d., being an average of £2 1s. 5d. more than obtained last year. The highest price was obtained in the Household Cavalry, viz., an average of £12 17s. 2d., the next in the Royal Artillery, £10 6s. 3d.; and the lowest in the Cavalry of the Line, £7 6s. 9d.; 23 mules were sold at an average price of £5 0s. 8d. (see Table K).

In Table F it will be seen that the highest prices received for cast horses were in the months of April, August, and July, and the lowest in November, October, and December.

(*To be continued.*)

Notes and News.

An Important Action.—The veterinary profession all over the land will watch with the keenest interest the progress and outcome of the lawsuit for damages entered upon for libellous statements by one of New York's promi-

nent veterinarians. The misdoings of a few members of the profession in that city, through the taking of bribes, commissions, and other compensation than their legitimate fees in conducting examinations for soundness, have for many years been a serious shadow upon the general reputation of the profession. The writer has heard many dealers speak in scathing words of the demands of veterinarians of Gotham in conducting their sales, and indulging in such remarks as, "There is not one of them who will not take a commission." Growing bolder in their general charges of dishonesty against the profession, one of them has intimated, in writing to a would-be purchaser, that he could not meet the fee demanded by his veterinarian, hence the rejection of his horses in the examination. In defence of the honour of the greater number of the profession a suit for ten thousand dollars damages has been instituted against this dealer, and its successful termination will put an end to these imputations, very unjust to the great body of veterinarians of Greater New York, whose honesty and integrity in this trying work of their calling merit the fullest confidence of horse-buyers.—*Journal of Comparative Medicine and Veterinary Archives*, November, 1898.

ALMOST every appointment of veterinarians to our recent southern army posts by the Quartermaster-General's office was through political influence and a part and parcel of the "infamous spoils system" that has degraded every branch of the public service where it prevails or has prevailed.—*Ibid.*

TENURE of office has no security under appointments gained by "political pull," as was learned by one of the veterinarians recently relieved from duty at Tampa, and who claimed to have as his backer no less a personage than Mark Hanna.—*Ibid.*

SPEED the outgoing, welcome the incoming, was the order of the day at Tampa about November 1st. The cry for retrenchment of expenses, by virtue of which several veterinarians were relieved from duty, seems also to have marked the time for the arrival of several new appointees whose backers with political influence had finally landed their constituents in public office.—*Ibid.*

A DANGEROUS CANON.—THE HOME OFFICE AND VIVISECTION.—A meeting was held at Plymouth on 20th December, at which it was decided to form a branch of the Anti-Vivisection Society.—Canon Bush, who presided, announced that he had written to Mr. Courtney, M.P., asking him to support a Bill to be introduced in the next session of Parliament dealing with the subject of vivisection. Canon Bush read correspondence which had taken place with the Home Secretary as the result of Mr. Courtney's inquiries. In his letter to Mr. Courtney explaining the objects of the Bill, Canon Bush pointed out that it would "make it illegal to operate for scientific purposes upon a living animal before first putting that animal under a state of complete anæsthesia." To this the Home Secretary replied, "This is the law already, unless the operator holds a special certificate from the Secretary of State dispensing with anæsthetics, feeding, and similar procedures involving no cutting. The animal has to be killed under anæsthetics if it be in pain as soon as the result of the experiment is ascertained. If the new law abolishes these certificates, it will put an end to the preparation and testing of anti-toxins and protective sera, as well as the most efficacious mode of studying infective diseases, and to the necessary practice of diagnostic inoculation." The second object of the Bill was to make it obligatory on the vivisector to destroy the animal before recovering from anæsthesia. On this point the Home Secretary's reply was, "This is also law already, unless the operator has a special certificate. These certificates are granted on condition that antiseptic precautions are used, and if these fail, and pain continues after the anæsthetic has ceased to operate, the animal is immediately killed painlessly." Another

object of the Bill, Canon Bush pointed out, was "to make it illegal to use curare." To this the Home Secretary replied, "It is illegal to use curare as an anæsthetic. It is often used in addition to anæsthetics for very good reasons, and as it does not render an anæsthetized animal sensitive, it would be absurd to forbid its use." Upon the further object of the Bill—"to make it illegal to operate on a living animal without a licence"—the Home Secretary's comment was, "It is illegal to operate for the purpose of the advancement of knowledge without a licence. *Mr. Bush surely does not mean to suggest that veterinaries should not be allowed to operate on animals for their cure without a licence from the Secretary of State.* The existing law as to cruelty protects domesticated animals from cruel operations not rendered necessary for some good reason. The Secretary of State is in favour of extending this protection to non-domestic animals kept in captivity." Finally, Canon Bush explained that the Bill proposed to make it illegal to close the doors of any laboratory against representatives of the people, as county councillors, M.P.'s, or J.P.'s. To this the Home Secretary replied, "Mr. Bush probably refers to the laboratories where experiments under the Act are carried on. If so, their doors are not closed against the carefully chosen representatives of the people, the Home Secretary, the Humane Society, and well-informed inspectors. Parliament expressly inserted a clause that experiments should not be performed in public, and is not likely to enact that they must be." Canon Bush said the reply of the Home Office was unsatisfactory, and did not really meet the case of the Anti-Vivisection Society. For instance, although it was illegal for an unlicensed person to operate upon living animals without the use of anæsthetics, the provision was rendered particularly inperative by the granting of a great many licences to young surgeons. —*Times.*

EDINBURGH BUTCHERS TAKING ACTION.—The members of the Edinburgh Master Butchers' Association have decided that from and after the new year they will purchase fat stock only under a warranty of soundness as regards tuberculosis. On the 24th November, the following circular was issued to the members of the association, and as the members with one accord signed the pledge referred to, the resolution stated on the circular will take effect as from January 1st, 1899:—For many years our trade has suffered severe losses from the fat cattle they bought at markets as sound being condemned, when slaughtered, on account of tuberculosis. Repeated efforts have been made to obtain from Government redress for this state of matters, but without success. The report of the recent Royal Commission on tuberculosis bears out that tuberculosis is not only a preventible disease, but by the use of tuberculin it can be entirely eradicated from a herd of cattle. Given care in the selection of healthy stock and attention to ordinary sanitary requirements, it is a comparatively simple matter for the farmer to keep his cattle free from disease. The Board of Agriculture has offered to supply tuberculin free of charge for the purpose of testing cattle, but the Royal Society of Agriculture in England and the Chamber of Agriculture in Scotland have not as yet seen their way to accept and make use of this offer, probably because butchers have hitherto purchased fat cattle indiscriminately, and without requesting any guarantee as to freedom from disease. At a meeting of the trade held on 21st November, it was resolved to recommend members in future to confine their purchases of fat bullocks and heifers to such as were guaranteed free from disease, and fit to pass the inspectors acting on behalf of the Edinburgh public health authorities. As it is very desirable that the trade should be unanimous on this question, you are requested to fill up the enclosed post-card and return it to the secretary.—*Edinburgh Evening Dispatch,* December 21st, 1898.

Review.

THE LIVE STOCK JOURNAL ALMANAC for 1899 is the best investment for a shilling we know of.

It is full of the useful information one is always in want of, and can't easily get without trouble, such as lists of fairs, breeders, addresses of colleges, chambers of agriculture, agricultural societies, etc., etc.

There are several articles of interest to veterinary surgeons, one by Professor Axe on railway transit of horses, another by Professor Penberthy on quarter-ill, and one by Dr. Fleming on twist, and we are glad to note that in none of these articles is there anything which professional men might object to being in a lay journal.

There is also a most useful breeders' table and a diary contained in this most useful almanac, which may be obtained from Messrs. Vinton and Co., 9, New Bridge Street, Ludgate Circus, London, E.C.

NEW NICOLSON RASP.

The foreman blacksmith in the forge of the New Veterinary College reports that he has thoroughly tried the "Nicolson" rasp, and found it to be the most excellent one that he has ever had experience with. It lasts long and is always sharp, and he prefers it to any other.

The rasps can be obtained from the London office, 35, Eastcheap, E.C.

Obituary.

Cook, Benjamin, Swansea	July, 1886.
Michell, A. E. St. Austell, Cornwall	July, 1882.
Edwards, Henry, St. Albans, Herts	May, 1863.
Johnstone, R. E., South Shields, Durham	May, 1894.
Aris, B. B., Wellingborough	May, 1848.
Young, H. D., Stewarton	May, 1888.
Wyen, George, Grantham	April, 1868.

Communications, Books, Journals, etc., Received.

Veterinarian; Record; British Medical Journal; Lancet; Report of the Bombay Veterinary College for year 1897-98; Chemist and Druggist; Bulletin of The John Hopkins Hospital; The Journal of Comparative Medicine and Veterinary Archives; The Scottish Medical and Surgical Journal; American Veterinary Review; Cattle Tuberculosis, by T. M. Legge, M.A., M.D., D.P.H.; The Public Health Journal; The Journal of the Jamaica Agricultural Society; The Surveyor; The Photogram; Queensland Agricultural Gazette; Petersburg Veterinary Society's Journal; C. H. Huish, H. J. Dawes, H. Locke, C. T. Kingzett, F.I.C.; Irish Times; Bulletin U. S. Department of Agriculture—Sheep Scab; La Riforma Veterinaria (Naples); Recueil de Médecine Vétérinaire (Alfort); L'Echo Vétérinaire (Liège); Annales de Médecine Vétérinaire (Brussels); Berliner Thierärztliche Wochenschrift (Berlin); Deutsche Thierärztliche Wochenschrift (Hannover and Karlsruhe); La Clinica Veterinaria (Milan); La Revista Veterinaria (Buenos Aires); Agricultural Journal (Cape Town); Bulletin de la Société des Sciences (Bucarest).